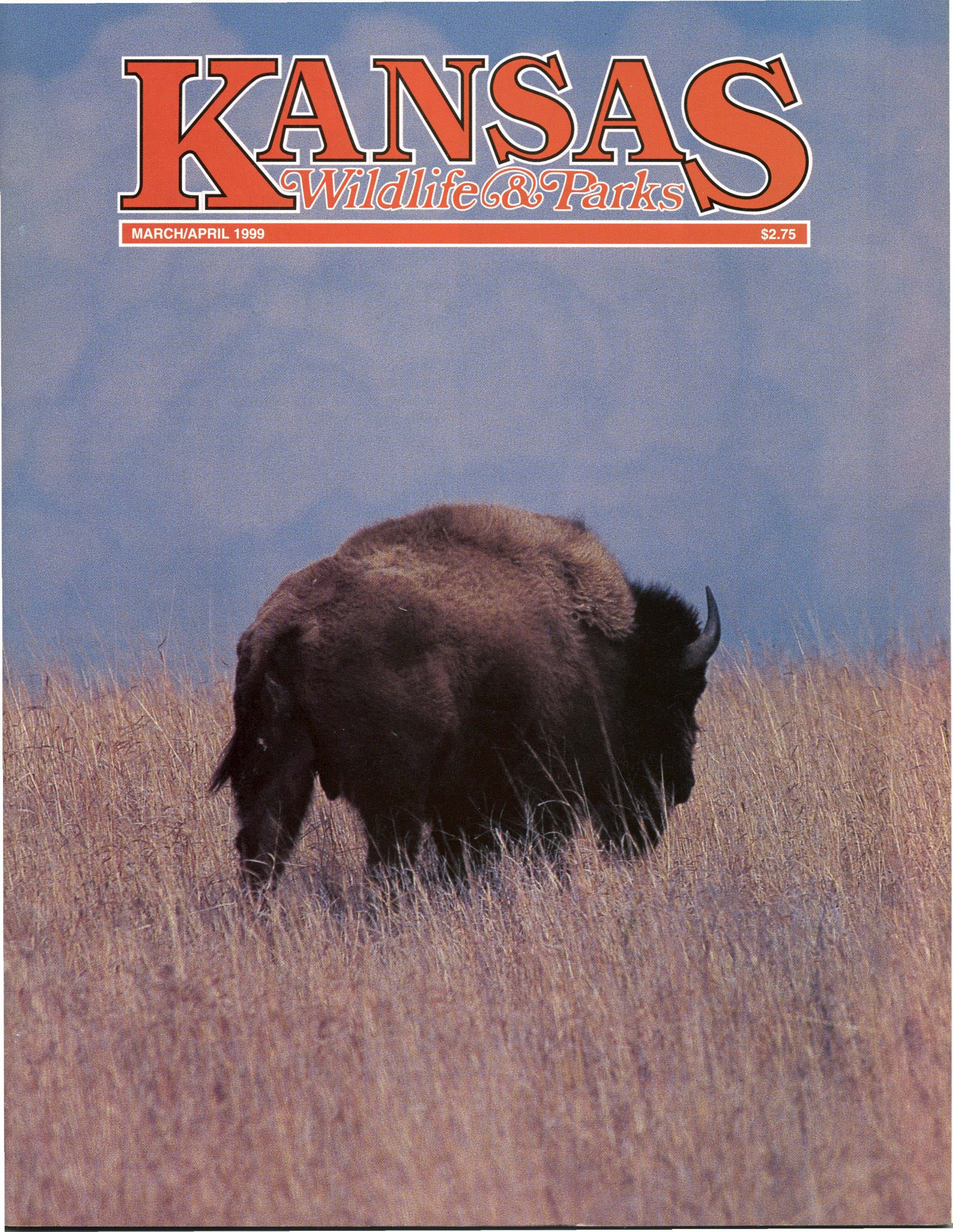
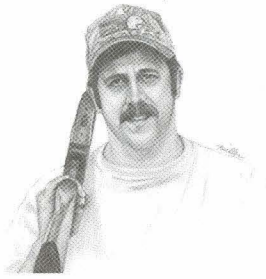
KANSAS
Wildlife & Parks

MARCH/APRIL 1999 $2.75



The View From Here



by Steve Williams

Fishing: Pass It On

For most folks, it's time to oil and case the shotgun and dust off the rod and reel. The 1998-1999 hunting seasons will be remembered for great waterfowl and deer hunting, but only average upland bird hunting (at least partially due to less than ideal weather). Nevertheless, now is the time to think "hook, line, and sinker." 1999 should be a great year to fish in Kansas.

How do I know that? Just turn to Page 28. Fisheries biologists have put a lot of hours to develop the fishing forecast found on these pages. The forecast, which is also available in a brochure and on our Internet site (www.kdwp.state.ks.us), is designed to allow you to locate the best waters for the kind of fishing you prefer. If you want to catch lots of fish but aren't worried about size, look for lakes with high Density Ratings of your favorite species. If you're after bigger fish, select a lake with a high Preferred Rating and high Lunker Rating. As you'll see, there are some fantastic fisheries out there. Also, don't forget that our weekly fishing reports will be available on our Internet site, beginning in April. As with most things, individual success will vary according to skill, timing, and most of all for anglers like me, LUCK!

Regardless of whether the fish bite, it's hard to beat a day spent fishing with family and friends. Fishing is an important family activity, pulling parents and children closer together. Special bonds can form when sharing the excitement of discovering the outdoors. And don't forget those who may not have the privilege of fishing with family and friends. Include a neighbor or friend on your next family fishing trip.

We all have a responsibility to ensure our rich natural heritage is passed on to future generations. In today's fast-paced society, it's difficult to sacrifice time and energy to assist others with less experience. However, I believe few things are as rewarding as passing on our conservation tradition. Besides, I contend that it's impossible to watch a youngster land a fish without cracking a smile.

Our department staff conduct hundreds of children's fishing clinics each year, but they can reach only a fraction of the state's population. As the percentage of anglers continues to decline nationwide, we need to be more proactive than ever in recruiting new members into the fishing fraternity. The Kansas "Hooked On Fishing Not On Drugs" program is in the process of expanding to new areas. If you're interested in helping, call Kasnsas Wildscape Foundation program coordinator Kathy Brown George, (785) 238-6866 for information. You can learn about other ways to contribute by calling the Wildlife and Parks office nearest you.Whether you decide to conduct your own local fishing clinic or just pledge to take a non-angler fishing, no contribution is too small.

Where you fish depends on the type of fishing you enjoy, and there are many options. To make it easier to find a place to fish and to provide anglers with more quality opportunities, the department initiated the FISH program. The Fishing Impoundment and Stream Habitat (FISH) program leases private ponds and streams for public fishing. Annual payments for impoundments are $40 per acre. Stream access leases are negotiable and average between $500-$1,000 per mile. Most leases run from March through October. The department posts and patrols the area and assumes normal liability. Department fish stocking may be an option for three-year contracts. Check our Internet site for updates to the FISH directory, beginning in March. If you're interested in enrolling a stream or pond in the program, call the Fisheries and Wildlife Division at the Pratt office — (316) 672-5911.

Like I said, 1999 is going to be a great year for anglers, young and old. The department manages fisheries in 24 federal reservoirs, 40 state fishing lakes, and 200 community lakes. And with the FISH program opening up some of the 50,000 private farm ponds and 10,000 miles of fishable streams, the toughest part of fishing this year might be deciding where to go. Turn to Page 28 and start planning. Good luck and good fishing.

Steve Williams

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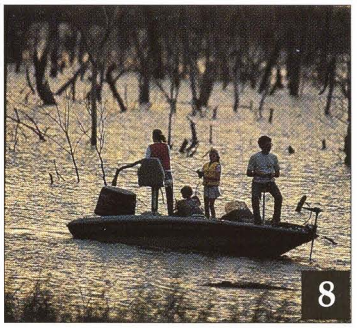

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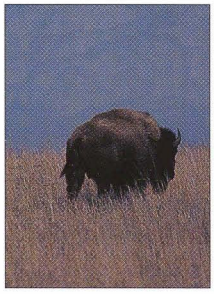
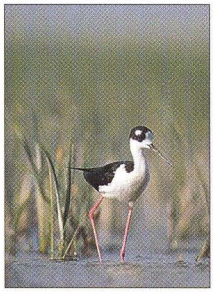
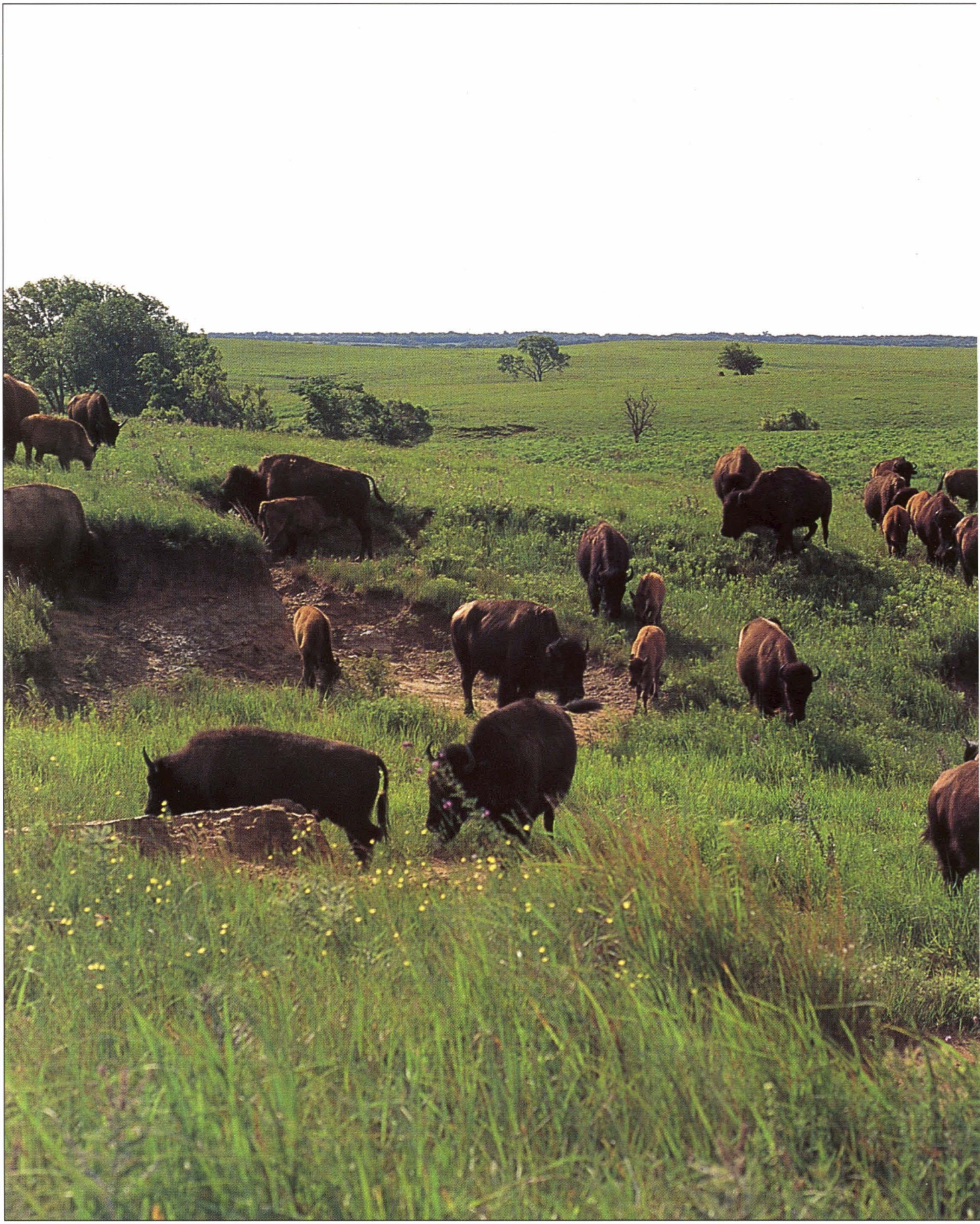


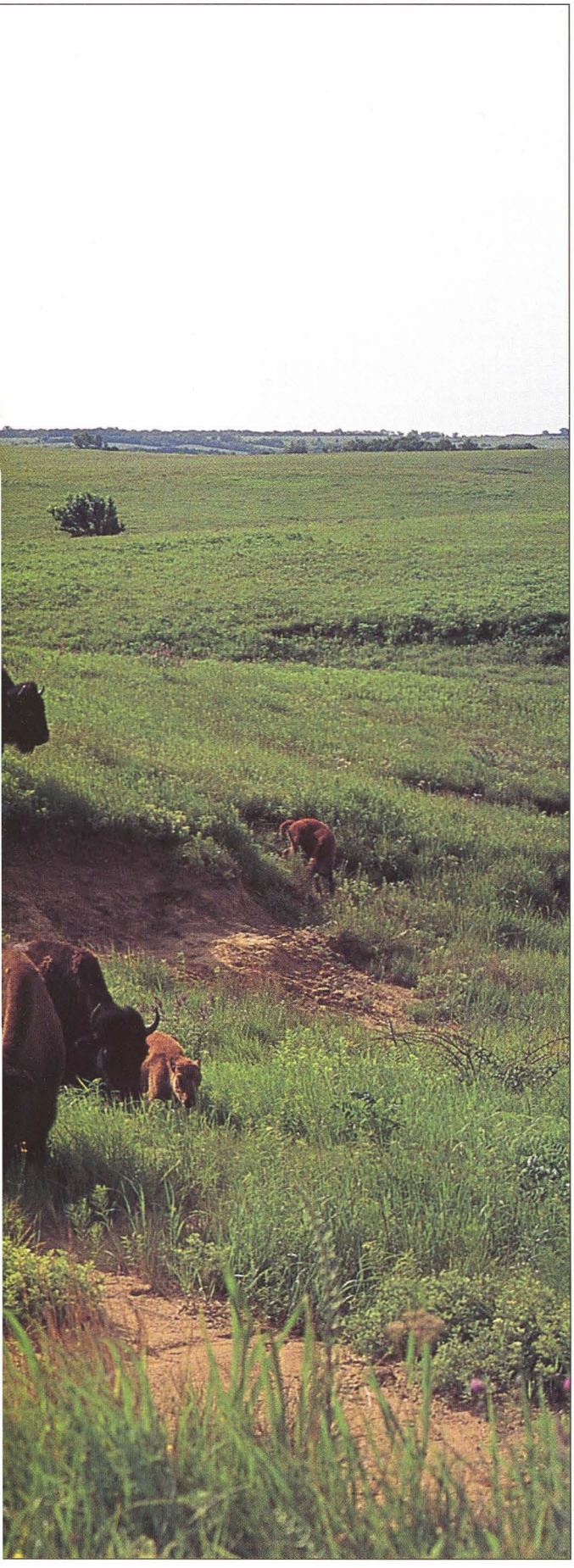
About the covers
Front: A bison bull heads for open county at Maxwell Wildlife Refuge. Mike Blair filmed the spring scene with a 400mm lens @ f/5.6, 1/250 sec. **Back:** Black-necked stilts are common visitors to Cheyenne Bottoms each spring and fall. Blair filmed the bird at water level using a 600mm lens @ f/4.8, 1/500 sec.



Kansas Department of Wildlife Parks Website
http://www.kdwp.state.ks.us

Editorial Creed: To promote the conservation and wise use of our natural resources, to instill an understanding of our responsibilities to the land.





Buffalo Nation

by Marc Murrell
public information officer, Great Plains Nature Center, Wichita

photos by Mike Blair

Prior to the arrival of settlers, 60 million buffalo, or more accurately, bison, roamed North America. They were so important to the lives of Native Americans that they referred to bison collectively as the Buffalo Nation.

It is a symbol of the United States' rich natural heritage. It was the life-blood of Native Americans. Although it was exploited nearly to the point of extinction during settlement, it still represents a bit of the past and a piece of the Old West. Few other animals hold such a majestic and powerful place in our history as the American bison.

Buffalo, as they're commonly called, aren't actually buffalo. The Asian buffalo, commonly used as a beast of burden, and the ominous African Cape buffalo are the true buffalo of the world. The mistaken identity was coined by early white settlers and explorers and has remained in usage until recently when many individuals and organizations began using the correct term of bison.

Ancestral bison made their way to North America from Asia on a land bridge that stretched from Siberia to Alaska. They eventually ranged from the East Coast states of New York, Pennsylvania, Maryland, Georgia and Florida to the Pacific Northwest. It is estimated that peak numbers reached 60-70 million animals, most of which were found from the Rockies to the Mississippi River and from Canada to Texas.

Vast herds stretched for miles across the Great Plains and moved in long, meandering lines from their wintering grounds in the South to their northern summer haunts. They were found statewide in Kansas with larger herds in the central and western portions of the state. In 1871, one herd in southwest Kansas was reported to contain more than four million animals. Sadly, only eight years later free-ranging bison vanished forever from Kansas

A bison bull may stand 6 feet tall at the shoulders and weigh more than a ton. All bison are equipped for the harsh weather common on the prairie. Buffalo robes, made from the bison's shaggy coat, were prized among Native Americans.

as the last one was killed west of Dodge City. By 1889, only 1,100 animals remained in the country.

The Plains Indians depended on the bison for survival, utilizing every part of the animal. Other threats to bison were prairie fires, bogs, swollen rivers, weak ice, wolves, grizzlies, coyotes and mountain lions. However, human greed and ignorance are to blame for the species' near miss with extinction. Early settlers viewed these massive animals as incompatible with the homestead style of life springing up all across the Midwest. History also hints of the U.S. Army's strategy to destroy the bison and along with it the livelihood of Native American tribes.

Monetary gain also contributed to their decline. Commercial hunters relentlessly and unrestrictedly slaughtered millions of animals without regard for future consequences. One market shooter could kill 250 bison each day and from 2,500-3,000 each year. They took the hides, which would sell for $3 each when shipped to the east coast. The carcasses were left to rot.

The remnants of the slaughter also proved valuable. In a 13-year span ending in 1881, $2.5 million was paid to Kansas for bison bones collected from the state's prairies. Head and rib bones brought $5 per ton and were used for phosphate in fertilizers. Shin and shoulder bones were sent to sugar refineries as a source of carbon for $8-$12 per ton. Horns were a real prize and would bring $30 per ton for use in umbrellas, fans, pipes and buttons.

The last wild bison in Kansas was killed in 1879. By 1889, just more than 1,000 were left in the entire country.

Fortunately at the time of the bison's near demise, individuals began keeping small captive herds of these majestic giants. The famous Goodnight herd of Texas, the Pablo-Allard herd of Montana, the Blue Mountain Forest Association herd of New Hampshire and the Scotty Philips herd at Fort Pierre, South Dakota, all provided genetic material capable of establishing display herds on federal and state-owned properties across the country. Between 1900 and 1914, bison herds were established at the Wichita Mountains Wildlife Refuge in Oklahoma, the National Bison Range in Montana, Ft. Niobrara National Wildlife Refuge in Nebraska, and Wind Cave National Park and Custer

State Park in South Dakota.

Kansas, like other states, decided to preserve its own bit of history by establishing and maintaining several display herds. A handful of animals can be seen at Pittsburg. A herd of as many as 200 animals is located at the Finney Game Refuge south of Garden City. The largest herd is kept at Maxwell Wildlife Refuge northeast of McPherson. Seven bison cows and three bulls were obtained from the Wichita Mountains National Wildlife Refuge to form the nucleus of a herd numbering up to 250 animals at Maxwell.

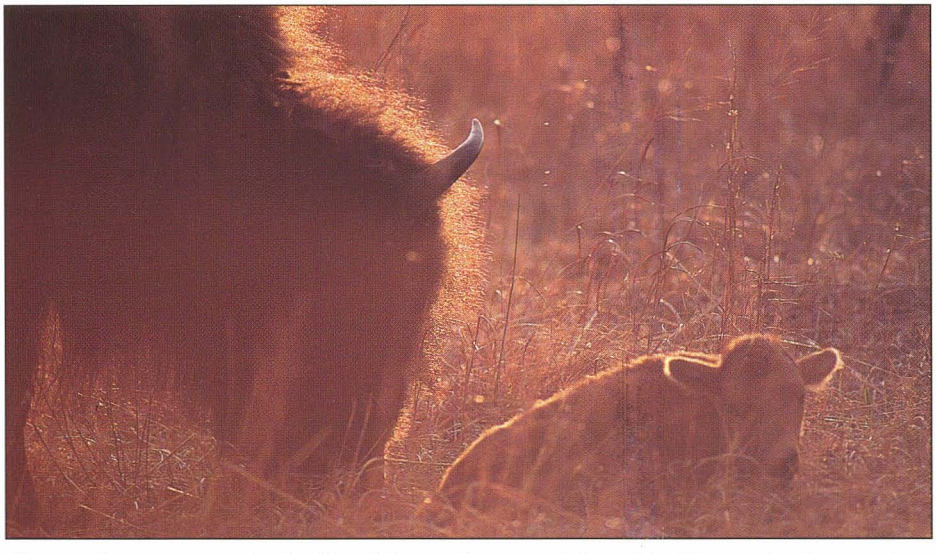
Male bison, or bulls, can weigh more than a ton and stand 6 feet tall at the shoulder. Cows are considerably smaller but still weigh more than 1,000 pounds. Bulls and cows each have horns, and they both appear similar with a shaggy, brownish-black coat and massive hump behind their head. Their life span typically ranges 15-20 years, but they may live as long as 40 years. Although their imposing appearance doesn't hint of speed, they can run up to 35 miles per hour over rough terrain.

Bulls are capable of breeding at 4-5 years of age while cows may breed at 2-3 years of age. Calves are born after a gestation period of about nine months, and nearly all are born in April and May. A single calf, rarely twins, is the norm, and birth weights vary from 30-70 pounds. Newborns lack the characteristic hump and dark brown color of their parents. The reddish, rusty colored calf is able to follow its mother shortly after birth and remains with her during the first winter.

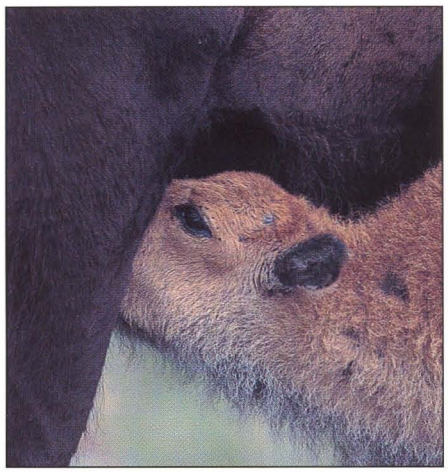
Other than at Yellowstone National Park, the 200,000 bison in America today are kept in enclosures. This bull is part of the Maxwell Wildlife Refuge herd.

Although free-ranging bison have long since vanished from the Kansas landscape, evidence of their presence is still apparent in bison wallows. As the bison shed their winter coat in spring and early summer, they wallowed depressions up to a foot below the surface in mud or cracked clay to provide some relief from parasites and other biting insects. Thousands and thousands of bison visiting traditional wallows left their mark visible even today.

These remnants, along with the display herds and tales of old, remind us that life on the prairie has drastically changed over the last 100 years. Man and civilization have encroached on natural areas to the point where wildlife has had to learn to live within our parameters or perish. Although bison aren't doomed to extinction, they will never roam the Kansas landscape again. However, they will always be a reminder of the Old West and life and times on the Great Plains.



Bison calves are born in April or May and may weigh up to 70 pounds. A cow gives birth usually to a single calf, which will stay with the mother through its first winter.



1998 Kansas Department of Wildlife and Parks Bison Auction

	Average price	Number Sold
Bull calves	$467.57	37
Heifer calves	$2,026.39	18
Yearling heifers	$2,189.29	14
Yearling bulls	$656.67	15
2 Year-old bulls	$825	7
3 Year-old bull	$650	1
2 Year-old heifer	$2,600	1
Adult cows	$2,475	4
TOTALS	$1,167.01 (average price)	97

HOW MUCH DOES A BUFFALO COST?

Each year, the Kansas Department of Wildlife and Parks has an auction at Maxwell Wildlife Refuge where surplus buffalo from the Maxwell and Finney Game Refuge herds are sold to the highest bidder. Ranchers from as far away as South Dakota, Georgia, New Mexico and Florida join numerous Kansas residents each November at the sale.

"I thought it would be kind of interesting and a good way to start something up and have some money later on as an investment-type thing for a college education for my kids," said Haven resident Jerry Schmidt about his early thoughts on raising bison. "That's how it all started."

Schmidt, who works for the Kansas Department of Wildlife and Parks as Cheney State Park manager, used to assist with the auction when a co-worker suggested he give buffalo ranching a try. Schmidt bought his first bison, four heifers, roughly 10 years ago and now manages a herd of 25 animals.

"These were unique animals and different than raising cattle," Schmidt said as to the popularity of bison. "There's a lot of history with this animal, as well as national symbolism. It was an animal that almost became extinct at one time and then made a big rebound." (10 years ago the U.S. population of bison was about 100,000 with that number now estimated at 250,000.)

Schmidt admits he made his start-up operation much more difficult than it had to be.

"I didn't know too much about it when I started," said Schmidt. "I was building my fences out of telephone poles and woven wire similar to what we had at Maxwell, and when I started talking to people I found out you really don't need

Two old bulls sparring for dominance is a sight that nearly vanished from the prairie. Today visitors to Maxwell Wildlife Refuge near McPherson, Finney Wildlife Refuge near Garden City or a small herd near Pittsburg can still enjoy these magnificent animals.

anything that stout. The fences don't have to be all that much bigger than typical cattle fences."

And their popularity is apparent around the state.

"In Kansas especially, I think there's a lot of people with herds in the 20-range, quite a few people that have about 100 and a few that have 200-300," said Schmidt describing a typical bison herd in the Sunflower State.

Bison prices have reflected the demand in the last decade. Valuable for their meat, average price per animal has nearly doubled since 1985.

Kansas Buffalo Association

"That's an excellent contact," said Schmidt referring to the Kansas Buffalo Association. "They've got a lot of people in Kansas that have been in it for a long time, and most of them go to the national conference (of the National Bison Association) and keep up with everything on a nationwide basis. If you talk to somebody who has done it for awhile, you can pick up a lot of quick tips and save yourself a lot of headaches."

For more information on the Kansas Buffalo Association, contact their Wichita office at (316) 721-0970.

Bison Tours

The bison roam the 2,560-acre fenced Maxwell enclosure and are often visible along the road and from the viewing tower. Tram rides conducted by the Friends of Maxwell can take you out into their natural habitat and provide a glimpse of pre-settlement days. School groups and others are inspired by the sight of these huge creatures. Coupled with the opportunity to see other types of wildlife, including about 60 elk, it's a good way to spend time with friends and family. For more information, contact the Friends of Maxwell at (316) 628-4455.

Average Bison Prices Department Auctions

Year	Average Price	Year	Average Price
1978	$562	1989	$765
1979	$654	1990	$750
1980	$531	1991	$755
1981	$582	1992	$703
1982	$504	1993	$947
1983	$373	1994	$1,112
1984	$463	1995	$1,082
1985	$531	1996	$1,363
1986	$812	1997	$1,263
1987	$821	1998	$1,167
1988	$819		

El Dorado State Park

by Mike Miller
editor, Pratt

photos by Mike Blair

Since being constructed in the early 1980s, El Dorado State Park has become one of the premier outdoor destinations in Kansas. Each summer, the park hosts up to 1 million visitors. What makes this place so popular? It's a combination of location, scenic beauty, special events, and a wealth of outdoor opportunities.

El Dorado was the mythical city of gold 16th century explorers believed existed in South America. It has come to mean a place rich in gold or opportunity. Although El Dorado Lake and state park were named after the town of El Dorado, just three miles to the south, the lake and park might take on the definition literally. El Dorado State Park, situated along the beautiful shores of El Dorado Lake, offers a wealth of outdoor opportunities.

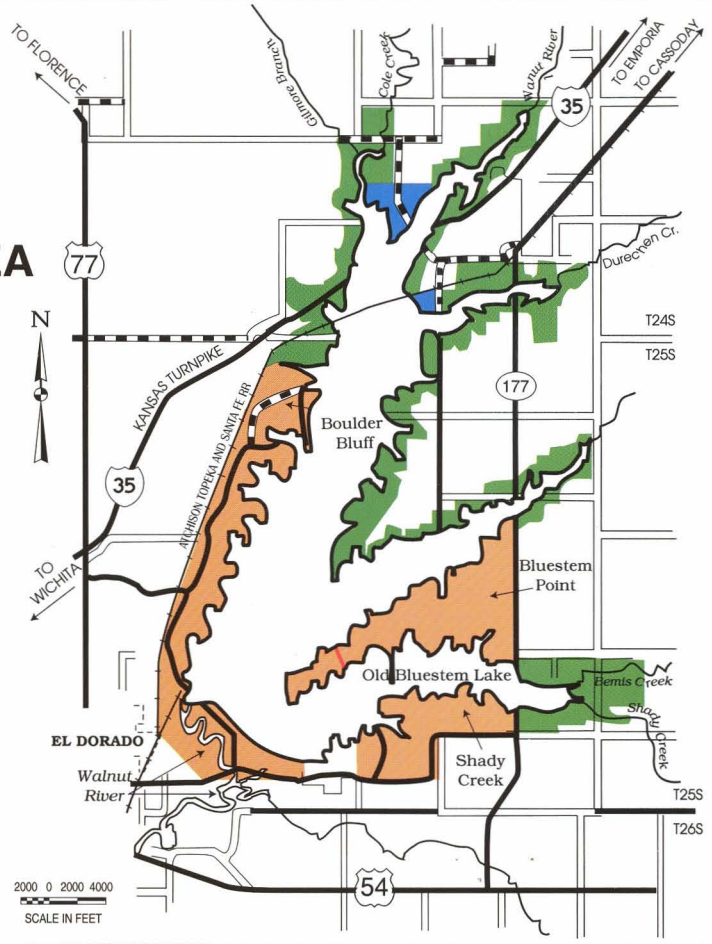
The reservoir began filling in 1981 when spillway gates were closed on the Walnut River. It was considered a "new-wave" reservoir at the time because the U.S. Army Corps of Engineers and the Kansas Fish and Game Commission worked together to create not only a flood control and water recreation site, but also a top-notch fishery. Instead of clearing the lake basin of trees, as had been past practice, much of the timber was left standing, and trees that were cleared for boating were cabled down to form brush piles. The lake was filled in stages to maximize the potential of the developing fishery. It was full in 1985, covering 8,000

Four state park areas at El Dorado offer 1,100 camp sites, including full utility hookups, as well as primitive sites. And for those without camp gear, there are five rental cabins.

EL DORADO
STATE PARK & WILDLIFE AREA

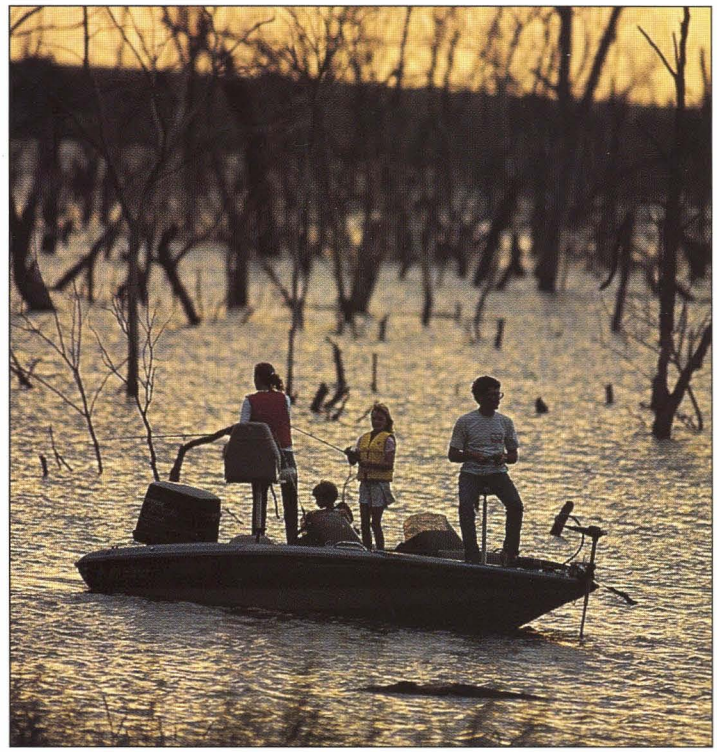
Legend

- State Park
- Public Hunting
- Hunting/Fishing Restrictions Apply
- Refuge (Sept. 1 to March 1)
- Paved Road
- Gravel Road
- Unimproved Road
- Town or city



acres and inundating two existing lakes, El Dorado and Bluestem.

To go along with a top-notch fishery, the department and the Corps developed a multifaceted state park. On approximately 4,000 acres of timber and native grassland surrounding the lower end of the lake, three park areas provide a variety of camping opportunities. There are 1,100 campsites, five shelter houses, numerous picnic sites, two swimming beaches, a modern marina, four boat ramps, a large amphitheater and five rental cabins. Campsites range from full-service utility hookups to primitive sites.



Much of the timber in the upper end of El Dorado Reservoir was left standing to provide optimum fish habitat.

Cabins provide shelter for those who'd rather not pitch a tent. For $35 a night on Fridays, Saturdays and holidays and $30 for all other nights, the cabins are an attractive option. Each cabin can accommodate four people and include a full bed and bunk bed. Beds have mattresses, but campers need to bring their own bedding. Cabins have electricity, as well as air conditioning and heat. Just outside each cabin is a water hydrant, barbecue grill and picnic table. Restrooms and showerhouses are conveniently nearby. With only five cabins, reservations are required. Cabins can be reserved up to two years in advance and require the total cabin fee along with a $5 reservation fee and a $35 refundable damage deposit. Refunds of the rental fee are possible if the park is notified seven days prior to the reserved date. The cabins are available year-round, however, the beach house is open only April through October. A small shower-restroom is available for cabin users year-round.

One million people can't be wrong. That's how many visited the park in 1998. Within a 20-minute drive of Wichita, El Dorado State Park can be a busy place during traditional summer weekends. Fortunately, the large park areas prevent intense crowding.

"If we didn't have a top quality staff willing to try new ideas and the support from the community, things wouldn't work nearly as smoothly," said park manager Randy Just.

Three full-time park rangers and 5-7 seasonal rangers work the park through the summer months. The rangers cover the park in vehicles, bicycles, water craft and on foot. Park rangers are responsible for law enforcement within the park and often assist conservation officers during the hunting seasons.

The two sand beaches at El Dorado attract sun worshipers each summer. El Dorado's waters are clear and inviting, and there's usually a water-related event through the summer weekends.

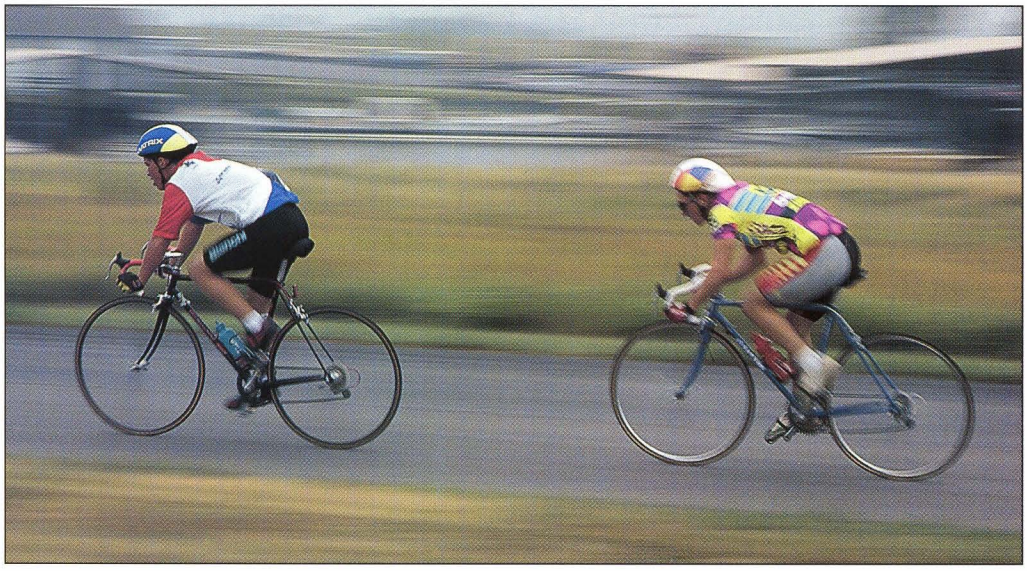
El Dorado State Park visitors enjoy all the water recreation associated with the lake, but there are other attractions. Several hiking and biking, and equestrian trails appeal to a growing legion of outdoor people. In the Boulder Bluff park area there is a 10-mile hiking/equestrian/mountain bike trail that leads visitors through native grassland. The Teter Nature

Water recreation is big at El Dorado. While the upper end of the lake is filled with standing timber, there is ample open water throughout the lower portion of the lake. More than one million people will visit the state park this summer.

Trail begins on the east end of the dam. It covers 3/4 of a mile and includes interpretive stations. A cooperative effort with the city of El Dorado will create a paved hiking/biking trail that will connect the city with the Walnut River Campground, below the dam.

The connection between the state park and the small town of El Dorado, 12,000 population, has existed figuratively since the park opened. The City of El Dorado, the Chamber of Commerce, and local groups and businesses have worked closely with the park, which provides an important economic boost to the community. The park benefits from this cooperation. A Friends Group and other local organizations help with money and manpower to accomplish projects that couldn't be done otherwise. A good example of such projects includes the rental cabins. The Friends Group of El Dorado Lake borrowed money from the Rural Electric Cooperative (REC) to purchase cabin kits. The cabin kits were constructed by park employees, and the cabins are maintained by a volunteer camp host. Since REC is supplying electricity to the cabins, they installed utility poles and security lights at no charge. Creative cooperative efforts like this allow the park staff to accomplish much more than could be under normal staffing and budget constraints.

The park operates with a staff of 11 full-time employees — a manager, three park rangers, one office



The paved roads through the park system provide great biking opportunities, and a trail starting at the Boulder Bluff park area provides mountain bikers with a fun challenge.

Pick any summer weekend; there's usually something happening at El Dorado State Park. The Prairie Port Concert on July 23 is sure to be a crowd pleaser.

assistant, one facility maintenance supervisor and six maintenance workers. In addition, 12 seasonal workers, four gatehouse vendors and 31 volunteer camp hosts are utilized through the summer months. Department of Corrections inmate crews are also used to help with maintenance.

In 1998, Governor Bill Graves and the Kansas Legislature approved a $10 million appropriation for state park improvements. Work under this funding has already begun at El Dorado with the replacement of the beach house in the Bluestem Point campground. Construction of a shower house in the Shady Creek campground is planned, as well as the renovation of all shower houses in Bluestem Point.

What draws so many visitors to El Dorado? It's a combination of the open spaces, large parks, scenic natural surroundings, and the lake's clear, fertile waters. And a series of special events hosted at the park doesn't hurt. In January, the lake hosts an Eagle Day. Each winter bald eagles take up residence around the lake. The park invites the public to come and not only see wild eagles, but also learn about eagles through an interpretive program.

El Dorado truly is a place rich in opportunity. Pick your fun -- beach volley ball, jet skiing, fishing, concerts, or a quiet walk on the nature trail. El Dorado is summer fun.

Other events include a Crappie USA tournament on May 1, 1999; the Fourth of July fireworks show (hosted by the Friends of El Dorado Lake) and Hot Rod Mini Tractor Pull; the Vietnam Veteran Reunion on July 16-18; The Prairie Port Concert on July 23; and the Summer Splash (a fun day on the water for individuals with disabilities) on July 24.

The lake attracts fishermen from across the state. Originally touted as a premier largemouth bass fishery, other species have overshadowed a declining bass population in recent years. Anglers enjoy quality crappie, white bass, smallmouth bass, catfish, and walleye fishing.

In the fall and winter, the wildlife area, as well as one-third of the state park grounds provide public hunting opportunities. The area boasts fine quail, deer, prairie chicken, turkey, rabbit and waterfowl hunting. The wildlife area includes about 4,000 acres, mostly along the upper end of the lake. Contact the state park office for information about areas open to hunting within the park. Maps of the park and public hunting areas are available through the state park office or the department's Pratt office.

So, there you have it. If your idea of riches includes outdoor recreation, the true meaning of El Dorado — a place rich in gold or opportunity — describes the park perfectly. El Dorado State Park is truly a Kansas treasure.

For more information about El Dorado State Park and the summer events, call the park office at (316) 321-7180.

Shorebird Management At Cheyenne Bottoms

by Helen Hands, *wildlife biologist* and **Karl Grover**, *area manager, Cheyenne Bottoms Wildlife Area*

photos by Mike Blair

The 19,000-acre waterfowl management area known as Cheyenne Bottoms has always been popular with waterfowl hunters for its hunting opportunities. But the area has also been recognized as a Hemispheric Reserve for migrating shorebirds. As a critical stopover for these world travelers, management plans have always included efforts to benefit this varied group of birds.

Cheyenne Bottoms has long been an important stop for migrating shorebirds. The Western Hemisphere Shorebird Reserve Network (WHSRN) has designated the Bottoms, both the state and The Nature Conservancy properties, as a Hemispheric Reserve. This is its top designation and means that at least 500,000 shorebirds, or 30 percent of a flyway population, may use the site during a year when habitat conditions are good.

WHSRN has also estimated that up to 45 percent of the shorebirds in the Western Hemisphere may stop at the Bottoms during spring migration. However, numbers of shorebirds stopping at Cheyenne Bottoms vary tremendously from year to year because habitat suitability for shorebirds at the Bottoms and throughout the Great Plains is and has always been variable. Despite annual fluctuations, numbers of shorebirds observed at the Bottoms have declined in the past few years. These declines seem to be due to the spread of cattail, which reduces habitat availability, as well as our ability to observe shorebirds.

Recently, concern has been expressed about the Kansas Department of Wildlife and Parks' commitment to shorebird management at Cheyenne Bottoms Wildlife Area (CBWA). In this article, we will discuss the shorebird management plan at CBWA, providing insight into the challenges involved in managing the wildlife area.

Shorebird Needs

During migration, shorebirds use Cheyenne Bottoms and other staging areas for resting and replenishing their energy reserves. Resting and feeding occur in the same type of habitat. In general, shorebirds require sites with little or no vegeta-

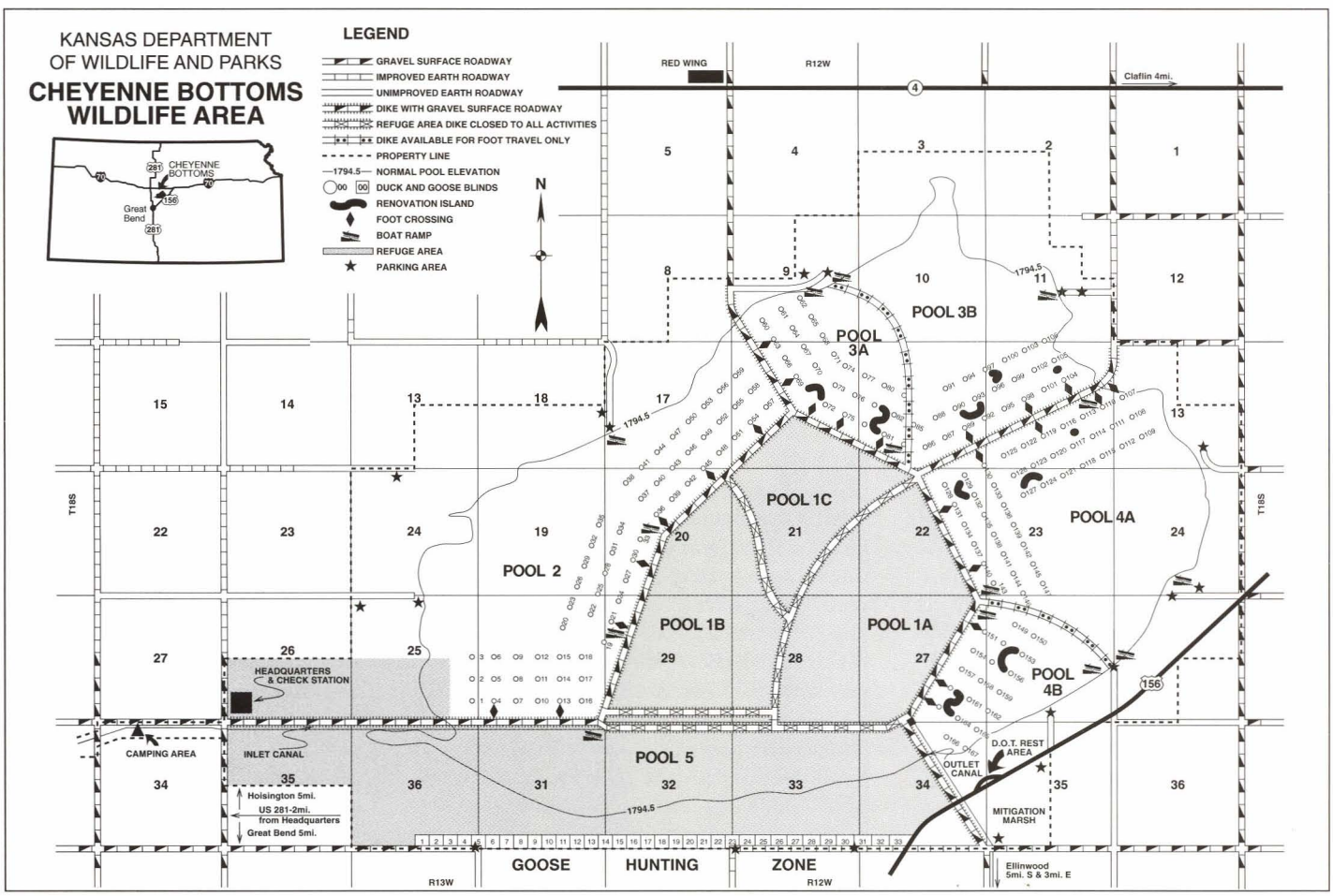
tion with saturated mud to water less than 5 inches deep. Different species use different water depths and tolerate varying amounts of vegetation. All species primarily eat invertebrates. Bloodworms, the common name for non-biting midge larvae, are especially important for many species, but other insects, snails, and small fish are also eaten.

Shorebird species differ most notably in their feeding behaviors. Killdeer and other plovers tend to pick at invertebrates on the surface of dry and moist mud. Sandpipers, godwits, and dowitchers probe for food in flooded mud, with the larger species using deeper water. Yellowlegs and phalaropes capture invertebrates in the water column, primarily from the surface. Phalaropes stir up invertebrates in the water by rapidly swimming in circles, and avocets sweep their 4-inch, up-curved bills through the water when feeding.

Managing Cheyenne Bottoms for shorebirds is a difficult challenge. However, the area is a critical feeding and resting spot for birds migrating through Kansas.

All species will also feed on floating mats of vegetation such as cattail stems and roots and algae, regardless of water depth. Thus, to satisfy the needs of all shorebird species, invertebrates need to be provided in both the water column and in the mud. Fortunately, the pools at the Bottoms are large enough and vary enough in depth to satisfy the needs of all species in a single pool if managed for shorebirds.

Of course, the feeding habitat is worthless if it isn't available when



the birds need it. Generally, shorebirds stop at the Bottoms from March through May during spring migration and from July through October during fall migration.

The abundance of aquatic invertebrates at Cheyenne Bottoms allows shorebirds to put on enough fat to carry them nearly half of the 1,500-2,000 miles to the Arctic where they nest. When habitat at the Bottoms is good, as much as 100 tons dry weight (1,000 tons live weight) of bloodworms can be available. Amount of fat deposited varies among shorebird species and the amount of time spent at the Bottoms.

Different species require somewhat different habitats. The phalarope feeds in deep water by swimming in circles, which brings food (invertebrates) to the surface.

Habitat Management

Shorebird habitat can be provided by either lowering water levels, called a drawdown, or flooding dry ground. Invertebrate response (density and weight) to water management at the Bottoms varies depending on water and air temperature, type and amount of vegetation present, management history (disking, grazing, fire, left alone), invertebrate substrate (mud or water column), invertebrate species, and type of water manipulation (drawdown or flooding). Drawdowns usually provide abundant invertebrates as soon as water levels are shallow enough for shorebird use. However, shallow flooding of dry pools requires more time for food resources to develop.

Preliminary studies at the Bottoms have found that bloodworms may not be found in the mud until one to three weeks after flooding a dry pool in August or September. After flooding, bloodworm densities don't become high enough to support large numbers of shorebirds for several weeks or months. Consequently, flooding a dry pool may not provide good feeding habitat until the following spring. Bloodworm response may be even slower in disked areas, which causes concern since disking has become a primary tool for controlling cattail.

Little is known about the response of water-column invertebrates to water and cattail management at the Bottoms. We plan to study the response of mudflat and water-column invertebrates intensively in the next three years. The objectives of this study are to determine if invertebrate response varies with different cattail control techniques, specifically disking, grazing, and silt removal using a scraper.

Currently, shorebirds are the top priority species at CBWA. However, that doesn't mean we'll do things for shorebirds that will harm other species. Duck and shorebird management can be compatible. Dabbling ducks, such as blue-winged teal, often use the same habitat as shorebirds.

New Challenges

Today, there are more challenges involved in providing shorebird habitat at CBWA than in the 1960s. Less water is available from the Arkansas River and Walnut Creek, and cattail and avian botulism have become major problems. Fortunately, these new challenges usually don't affect shorebird management in spring.

Cheyenne Bottoms Wildlife Area has water rights to about 30,000 acre-feet of water from the Arkansas River and 20,000 acre-feet from the Wet Walnut Creek. These water rights were obtained to supplement natural flows from two small creeks, runoff, and rainfall so that the wildlife area would have water during dry periods.

Although the amount of water diverted to CBWA has varied substantially through the years, there has been a decreasing trend in water diverted since the 1970s. Fortunately, water has been available more often from Wet Walnut Creek since an Intensive Groundwater Use Control Area was established in 1992.

More so than in the 1960s and 1970s, water from these supplemental sources usually contains a lot of silt, which accumulates in canals and around water control gates and pump intakes. Excessive silt hampers our ability to move water around the marsh and exacerbates our cattail problems. In the past, silt could be avoided by not diverting water when the creek and river were full of silt. If we did that today, we'd divert even less water than we do.

Having less water available means that the Bottoms is more likely to go dry than it was after it was developed in the 1950s. As a result, we're more careful with the water we get today than managers were 30 years ago. We must balance the benefits of using water relative to the amount of water needed for a purpose. For example, water evaporates more quickly in a shallow pool

flooded for shorebirds and ducks than in Pool 1A, the 6-foot-deep water storage pool. Thus, we're hesitant to shallowly flood a pool in the heat of the summer, when we can lose water at a rate of an inch per day.

The cattail problem is another major change at the Bottoms. A vegetation survey in 1929 didn't report any cattail. Cattail started to become a problem in the mid-1970s. Today, cattail can cover up to 60 percent of a pool, reducing the availability of openings needed by most marsh wildlife. Even though large openings are available in some pools, shorebirds are hard to see when cattail blocks the view. Taller cattail in fall makes visibility worse than during spring. Most importantly, the cattail problem now dominates every management decision made at the Bottoms. Before we drain or flood a pool, we consider how it will affect cattail. For example, say it's July and we have a dry pool with relatively little cattail. At other marshes, it would be an easy decision to shallowly flood this pool for shorebirds. However, we are unlikely to do this at CBWA because the low water levels used by shorebirds would be perfect conditions for established cattail plants to grow and for seeds to germinate. Similarly, the potential for cattail expansion due to a drawdown in July, August, or September discourages us from providing mudflats for fall migrating shorebirds. These are tough decisions. We can't justify providing a few weeks of shorebird habitat if it results in the need for two years of disking to clear the cattail caused by shorebird management.

Avian botulism is another factor we have to consider when managing for shorebirds. Botulism is a bacterial disease that kills waterfowl, shorebirds, gulls, pelicans, and wading birds. During outbreaks in 1990, 1993, 1994, 1995, and 1998, we picked up more than 9,000 sick and dead birds, including more than 100 shorebirds. The actual number of birds dying in an outbreak is substantially higher than the number picked up because dead birds are hard to find.

Botulism is caused by the bacteria, *Clostridium botulinum*. After the initial disease outbreak, this bacteria remains in the marsh soil from year to year. Disease outbreaks occur after environmental conditions stimulate the bacteria to produce a toxin. These conditions are high temperatures, low oxygen concentration in the water, and an abundance of dead animal matter.

Although botulism can occur when water levels are high and stable, the classic botulism outbreak occurs in late summer when water levels often recede. Unfortunately these are the conditions shorebirds need.

Though botulism was first reported at the Bottoms in 1967, we have more actively dealt with the disease since 1990. Our weapons are limited to picking up dead and sick birds and managing water levels to reduce the chance of an outbreak, which can prohibit summer drawdowns.

In summary, when we manage for shorebirds, we try to provide appropriate water depths, little or no vegetation, and abundant invertebrates in the water and the mud at the appropriate time. We attempt to provide these conditions unless shorebird management would likely waste water, stimulate cattail, or spark a botulism outbreak. Fortunately, Mother Nature does just as good, if not a better, job of providing shorebird habitat. Of course, She can also stymie our efforts with too much or too little rain.

Although we prefer not to draw down or shallowly flood a pool during July and August, Mother Nature frequently does this for us. Sometimes, during wet periods, the Bottoms can get too much water. And even with our pumps and outlet canal, we can't provide shallow water in our pools. At these times, shorebirds use flooded saltgrass in the perimeter grasslands, the adjacent Nature Conservancy Preserve, and shallowly flooded farm fields around the area.

Globetrotting shorebirds are a fascinating group of birds whose travels in the Western Hemisphere take them from the Arctic to the southern tip of South America. Along the way, they depend on numerous wetlands in addition to Cheyenne Bottoms. The importance of these wetlands to shorebirds is often compared to links in a chain. Loss or degradation of important wetlands in the Hemisphere can jeopardize the survival of shorebirds. Despite the challenges of managing Cheyenne Bottoms, the Kansas Department of Wildlife and Parks is committed to shorebird management at this Kansas link in the chain.

Cattail is considered in every management decision made at Cheyenne Bottoms. Many of the practices that improve shorebird habitat can also increase cattail growth.

Mike Blair photo

SEIZE THE NIGHT

We are the stars who sing; we sing with our light.
We are the birds of fire; we fly over the sky.
Our light is a voice.
We make a road for the spirits, for the spirits to pass.
Among us are three hunters who chase a bear.
There never was a time when they were not hunting.
We look down on the mountains.
This is the song of the stars.

— Passamaquoddy song

by J. Mark Shoup
associate editor, Pratt

"To the stars through difficulties." It's no wonder this phrase was taken by our pioneering forefathers as the state motto. To covered-wagon travellers, the nighttime prairie sky — in all its clarity — must have seemed like a sea of stars they were riding through. And times were, indeed, difficult. While the soil was rich, the weather was unpredictable. Conflicts with Native Americans were often a threat, and then came the pre-statehood days of "Bleeding Kansas," when anti- and pro-slavery factions fought for control of the territory.

Of course, the stars were more than a symbol of achievement and perseverance. They were practical navigation tools for early trappers, as well as the pioneers who followed. Although most modern observers might not associate star gazing with wildlife, it was not always so. Long before European settlers came to the Sunflower State, native Kansans were looking to the stars, both figuratively and literally.

To natives of the North America, most star constellations were seen as groupings where the supernatural manifestations of animals or heroes, often hunters, lived. The

most familiar and important of all constellations, the Big Dipper, played a prominent role in Native American mythology. For some tribes, the four stars that comprise the bowl of the Big Dipper were seen as a bear. The three stars that we see as the Dipper's handle represented three hunters in pursuit of the bear. The small star next to the second hunter was a pot the hunters would use to cook the bear once they had killed it.

If you extend a line from the top outer star of the dipper back through and beyond the handle, about three times the Big Dipper's length, you come to Corona Borealis, a small constellation also known as the Northern Crown. This group of stars appears as a small circle with about 90 degrees of its circumference cut off. But to many Native Americans, the Northern Crown was a cave where the hunter's bear spent winter.

Together, these two constellations comprised much more than a mere painting in the sky. It was a dynamic, repeating drama that marked the seasons and demonstrated the self-sustaining, nourishing cycle of life and death in nature. The story goes like this:

Each spring, a bear wakes from its long winter's nap and leaves the cave in search of food. Like the bear, the hunters are hungry, too, after surviving the lean months of winter, and they stalk the bear. The hunter nearest the bear carries a bow, the second carries a pot to cook it, and the third collects firewood.

All summer, the hunters stalk the bear, but in fall it begins to weaken. The archer shoots the bear, and it falls over on its back. (In autumn, the Big Dipper is upside down.) When the bear falls, its blood is spilled upon the earth, turning sumac and maple leaves a brilliant red. The hunters eat the bear, but its skeleton remains in the constellation, and its life spirit returns to the den, the Northern Crown, where it remains through winter.

The bear sleeps all winter, then comes out again in spring, repeating the cycle. (The Northern Crown itself disappears from the Kansas sky in October and doesn't return until February, when it reappears to the right, or east, of the Big Dipper. Then it moves upward and right to left in the sky, appearing straight above the Dipper in late May and disappearing again in the west, or left, in October.)

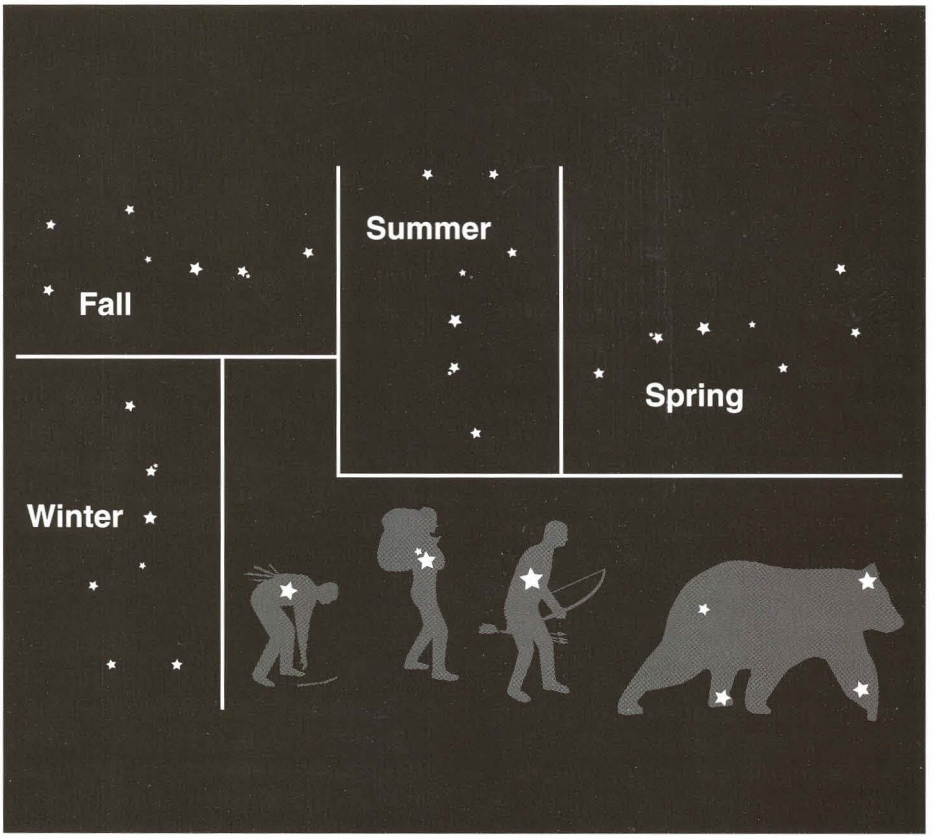
Many such myths are born of fascination with the stars. According to the Pawnee Indians, the world was created by the god Tirawa, who assigned to the stars the task of supporting the sky. The Lakota believed that the Constellation of the Hand (bottom half of Orion) was the arm of a great Lakota chief. And as you might expect, the Australian aborigines saw the Northern Crown as a boomerang in the sky.

Next to the Big Dipper, perhaps the most well-known constellation is Orion. Also called the Hunter, the stars of Orion are seen as a warrior holding a shield in his left hand and a club in his right. Betelgeuse, one of the largest stars known, marks his right shoulder. Bellatrix marks his left shoulder, and Saiph and Rigel his two legs. Orion is found near the celestial equator (an infinite extension of Earth's equator into space) and can be seen from the Northern Hemisphere during the winter.

From the mysterious builders of Stonehenge in Britain to the Incan pyramids of Peru, signs abound of ancient man's fascination with the stars. But the stars were more than sources of mythology; many ancient cultures developed elaborate calendars based on star observation, and the stars have been essential navigation tools through the ages.

The earliest mariners found latitude by measuring the altitude of Polaris, the North Star, above the horizon. This is a point in the sky directly above the Earth's north pole. The altitude of Polaris is approximately equal to the observer's latitude on Earth.

Man is not the only "creature" to use the stars to navigate. Birds are



Dustin Teasley illustration

The Big Dipper was seen as a bear and hunters to some Native American tribes. The legend tells of the hunt and the changing seasons as the constellation shifts in the sky.

Mark Shoup photo

Visitors to the Kansas Astrophotographers and Observers Society's Great Plains Star Party not only learned about astrology, many also made their own telescope.

believed to use the night sky as a reference point, able to sense direction through the sky's "center," the hub around which the entire sky appears to revolve at night.

But for mankind, star gazing is the one of oldest natural sciences. What began with superstition evolved into more scientific understandings of the world. The ancient Babylonians, for example, developed a complex mathematical system similar to algebra to help predict "evil" events such as eclipses. We still use many concepts of this system, such as the 360-degree circle, the 60-minute hour, and the 60-second minute.

Two of the most stubborn misconceptions born of star gazing, however, were the beliefs that the Earth is flat and the universe revolves around the Earth. Although it would take some time for the truth to be widely accepted, careful astronomers solved these mysteries much earlier than is commonly believed. In the fourth century BC, the Greek philosopher Aristotle watched an eclipse of the moon and noticed that the Earth's shadow on the moon was curved. From this, he reasoned that the Earth was spherical.

It is commonly taught that Italy's Galileo used telescopes to prove that the Earth revolved around the sun by observing the phases of Venus over a period of time. But Aristarchus, a third century BC philosopher, was the first to proclaim that the earth revolved around the sun and spun on an axis, causing the daily changes we see in the sky.

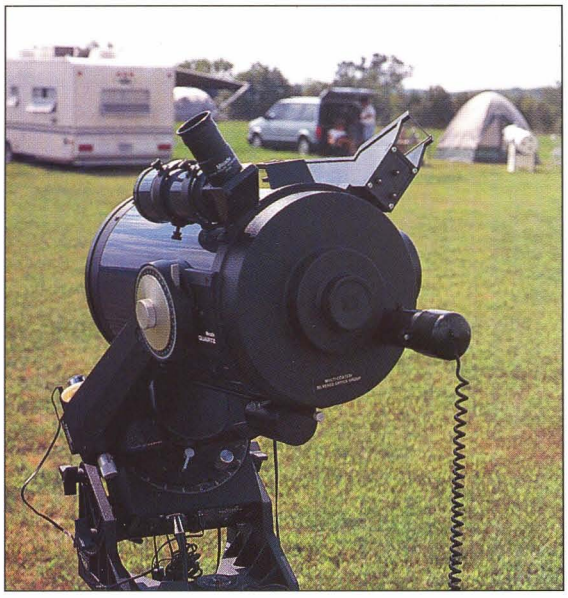
Today, fascination with the stars has anything but diminished. And Kansas, with its bright, clear nighttime skies, is an excellent place to star gaze. In fact, one of the most famous names in astronomy honed his interest on a farm in western Kansas. In 1928, 22-year-old Clyde Tombaugh of Burdett, had become dissatisfied with his Sears-Roebuck telescope, so he ground mirrors and made his own 9-inch scope. With this, he viewed the planets and made detailed drawings, which he sent to Lowell Observatory in Arizona for advice. Instead, he was offered a job, and two years later discovered the planet Pluto with the Lowell telescope.

As technology has stretched our physical reach into space, so have our imaginations reached for the stars through books, movies, and television. Perhaps this combination of technology and imagination has fueled the interest, but old-fashioned star gazing may be more popular than ever. Planetariums, space centers, and observatories cater to star enthusiasts across the country. Amateur astronomy clubs have sprung up everywhere, including Kansas, and their primary get-togethers — called star parties — are gaining in popularity.

One such group is the Kansas Astrophotographers and Observers Society (KAOS), based in Kansas City and self described as "a small number of long-term dedicated amateur astronomers solely interested in the development of a dark sky site for observing, deep sky photography, and CCD imaging." (CCD stands for charge-coupled device. This is an electronic image sensor that provides intense sensitivity at low light levels and thus, better photographs of celestial bodies.) The group caters to serious amateur astronomers, and activities include meetings and observation gatherings at places such as the Powell Observatory, near Louisburg.

In the late 1980s, KAOS members decided they needed a more remote, darker place to observe the stars. Even the smaller communities near Kansas City were growing, and with that growth came increasing "light pollution" at night. A core group of 16 KAOS members pooled their money and purchased 18 acres of high meadow in eastern Anderson County, 20 miles from the nearest town and accessible only by county road. Night in the meadow (nicknamed Scopeville) is black as ink, perfect conditions for unpolluted star gazing and suitable for astrophotography and deep-sky observing.

The core group staked out spots on the meadow where they built customized decks for their personal viewing equipment. Most of the year, Scopeville is a private place, reserved for members and their guests, but for three days each year,



Veteran "star partyers" bring their own equipment and share their knowledge with beginners.

it's open to the public for a small fee ($25 for adults and $12 for kids under 12). This event is known as the Great Plains Star Party. Participants may come for a day or camp out all three nights. For an extra fee, catered evening meals and T-shirts are provided.

For those who need to focus on more earthly nature experiences from time to time, Scopeville borders Sugar Creek Mission and St. Phillippine Duchesne Park. This 170-acre area was once a Jesuit school for Pottawatomie girls. The mission is now a historical site, and the grounds include trails through deeply-wooded creek channels, providing an excellent opportunity to watch wildlife. The Prairie Spirit Rail-Trail and Marais des Cygnes Wildlife Area are within short driving distance.

But it's the exposure to seasoned astronomers and their equipment (politely requested and shared) that makes this event so interesting for everyone, especially the beginner. The Great Plains Star Party provides everyone the opportunity to mingle with experienced star gazers, look through powerful telescopes, ask questions about the hobby, and even build their own scopes. Through the day, participants chat, pick up tips, nap in tents and campers, and enjoy presentations by professors and other experts on astronomy.

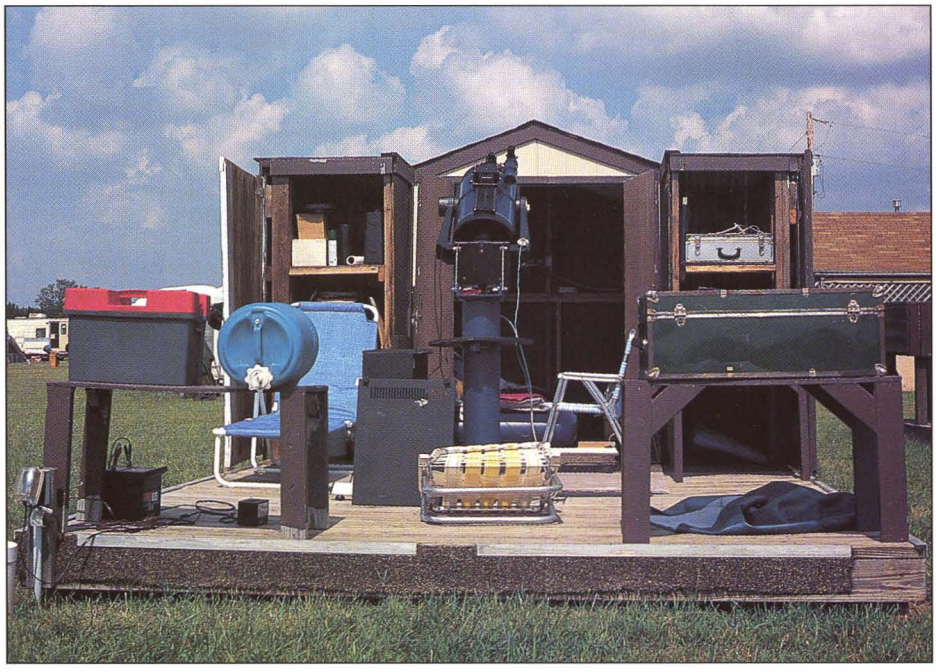
At night, the real action begins. The only night light allowed is starlight. No lanterns, no camper lights, no fires. Artificial light not only shrinks the pupil, disturbing night vision, it also disrupts the amount of light gathered by a telescope. The only light allowed is a small flashlight with a red glass or other clear red covering. But this is no hardship. The pure, clear nighttime sky, far removed from artificial light, is an awe-inspiring sight. A night spent star gazing, with or without a telescope, fills the soul and rejuvenates the imagination. Just the thought that there are billions of stars in our galaxy and that there are billions of galaxies in an infinite universe is at once both humbling and uplifting. To think that you may be looking at a star dead millions of years but whose light is still travelling toward Earth stretches one's relatively small, earthly concept of time and space.

Star parties are gaining popularity throughout the Midwest and the nation. People from all over the country come to Scopeville and other star parties, just as modern day mountain men rendezvous and Good Sams circle their campers at lakeside gatherings.

But you don't have to go to a star party to get started in astronomy. In fact, you don't even need a telescope. But how do you start? While it's a pleasure in and of itself to go out and gaze at the stars, it's impossible to make sense of it without some guidance. Here are some tips on getting started in the hobby of astronomy:

1. Visit your public library. There is no top to the learning curve in astronomy, but the more you learn, the more enthusiastic you will become. However, unless you live in an urban area with an astronomy club or other resources, this will be a self-taught hobby, at least in the beginning. Look for basic astronomy guides. Find the one you like best in the library then purchase it from a bookstore or over the internet through places such as www.amazon.com or www.barnesandnoble.com.

A naked-star map is essential. These may be found at good book-



Mark Shoup photos

Club members have constructed decks on the Society's property for star gazing. No lights are allowed during the three-night event – except of course for the stars.

Although beginners can learn much about the stars and constellations with a simple pair of binoculars, many will move on to more sophisticated equipment.

stores, and *Sky and Telescope* magazine has an updated one in each monthly issue that shows where the stars are that month. A good planisphere will work, too. This is a star wheel that can be adjusted to show the stars in your area at any time of year. Once you have advanced beyond the beginner's stage, you'll want a 6th magnitude star atlas for more detailed naked-eye and binocular viewing.

2. Learn the sky with the naked eye. Remember, this is an outdoor nature hobby. It's a great activity for camping trips or night fishing expeditions. As with fishing, you don't need fancy equipment to get into it. Using your guide and star wheel, learn the names of the constellations and individual stars. Enhance this knowledge with the mythology surrounding the constellations. Native American star lore can be found by doing a web search for "Lakota star knowledge." Don't ignore Greek mythology, either.

Remember that to put a telescope to good use, you have to know the stars with the naked eye first, just as you need to know game before hunting. But astronomy can be a perfectly rewarding hobby without ever purchasing a telescope.

3. Move to binoculars. The power of binoculars can take you half way to a telescope at a fraction of the cost. They also give you the advantage of looking directly at your target. In fact, many hobbyists never move beyond the binocular stage. Using detailed maps and guidebooks, binoculars can reveal star clusters, galaxies, and nebulae. Jupiter's moons and the crescent phase of Venus may be viewed, and you can learn the names of mountain ranges, craters, and plains on the moon. You can even split double stars with binoculars.

4. Find other amateurs. Once you are comfortable with maps, guides, and binoculars, find a club. Like most hobbies, astronomy is more fun with other people, and you certainly learn more by exchanging ideas. Do a web search for "astronomy clubs."

5. Don't skimp once you buy a telescope. If you have to save a while to buy a good scope, do it. Don't buy a department store telescope. A good scope should include two things: a solid, smooth-working mount and high-quality optics — "diffraction-limited" or better. As a rule, the larger the aperture, the more powerful the scope, but don't ignore portability. You can also build a scope much cheaper than you can buy one outright. Clubs can help with this.

6. Don't expect to see the rings of Saturn in full color. Star gazing is the art of looking at very dim objects, not flashy special effects.

Star gazing is one of the most relaxing and satisfying of outdoor activities. Enjoy the stars for what they are and have been to mankind since creation, not what you might expect from a science fiction movie. In these days of television, high-tech movies, and video games, we are sometimes over-stimulated to the point of numbness. Our imaginations often seemed shriveled, needing more and more artificial input to fill the void. But it doesn't have to be that way.

After all, who can forget those salad days of summer when your parents let you sleep in the backyard, and you stayed up late with brother, sister, or friend, just talking, staring, wondering what it was all about. Amateur astronomy can resurrect those days.

Kansas Astronomy Resources

For astronomy programs and a chance to look through a truly big telescope, visit the Powell Observatory, near Louisburg, or the Lake Afton Observatory, near Wichita. For educational programs, exhibits, and other information, visit the Clyde Tombaugh Astronomy Center in Dodge City, the Kansas Cosmosphere and Space Center in Hutchinson, the Pittsburg State University Science Education Center in Pittsburg, or the Wichita Omnisphere and Science Center in Wichita.

For more information on the Great Plains Star Party, contact Dan Johnson at (913) 897-0235 or visit the Great Plains Star Party website at http://www.icstars.com/HTML/GreatPlains. The www.icstars.com website also offers a variety of astronomy information, as well as links to other related websites.

(Getting started tips paraphrased from suggestions by the editors of *Sky and Telescope* magazine.)

Slip Corkin' 'Eyes

text and photos by Marc Murrell
public information officer, Great Plains Nature Center, Wichita

If you've put away the corks and bobbers of your youth to tie on more sophisticated walleye rigs, think again. This rig will catch walleye when other techniques fail.

When you think of walleye fishing, bobbers and corks usually don't come to mind. Those contraptions are for kids and panfish. Right? Well, despite this impression, using a slip bobber to present your bait to walleye can have fantastic results and may help you catch the toothy critters when conventional methods fail.

I first learned about slip-corking for walleye a few years ago from Craig Athon, a life-long hunting and fishing buddy. Athon has been active in the Kansas Walleye Association for the last eight years and has fished more than 75 tournaments. He lives, eats, and breathes walleye in the spring and summer and fishes Kansas lakes three or four days each week in search of these secretive fish.

"Anyone can catch fish on a given day, but to catch walleye consistently, you have to be flexible," Athon stated. "One day the fish might be in 2 feet of water, and the next day they might be in 30. You just never know."

Being flexible means trying something different and adapting to changing weather conditions. If you fish during the spring, you know the weather can change in 10 minutes and not always to your advantage. This was evident the day I received my Slip Bobbering 101 crash course on a local reservoir.

Athon and I were drifting a jig and night crawler combination over a meandering point in a perfect 15 mph wind and picking up a few walleyes each pass. In a matter of minutes, the wind kicked up to 30 mph, and even a walleye with Mark Spitz-like traits couldn't catch up to our baits. Athon suggested we anchor and cast to the wind-blown point with a slip bobber.

"A what?" I laughed.

I reminded him we were fishing out of a brand new bass boat I had just purchased, not sitting on white buckets along a creek bank trying to catch bluegill with cane poles.

"Don't knock it 'til you've tried it," he said, grinning.

Mumbling to myself and hoping none of my other buddies would witness me watching a cork, I fired up my new toy and motored out from the point, shaking my head in disbelief. Athon lowered the anchor, and we swung into position with the bow facing into the wind, 20

yards from the shallow water on the submerged point.

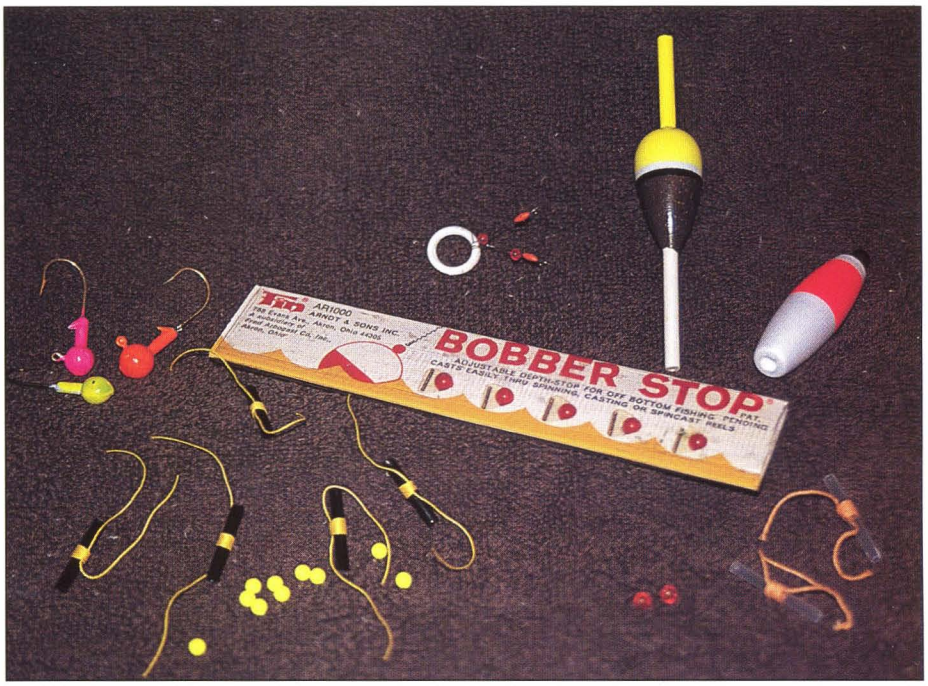
Sensing my resistance, Athon explained. "Several years ago we had good luck using slip bobbers in a tournament. We had trolled over an area earlier in the day and caught one fish — the only fish we'd caught all day. We tried drifting over the area, but it was an old foundation and chock-full of snags. We couldn't keep a jig in the water, so we stopped and decided to try a slip bobber.

"We hadn't been there long, and I caught a 4 1/2-pounder, lost two other fish at the boat and two that got snagged up," Athon admitted. "That was a pretty good introduction to slip bobbers, and with any of the fish I lost, we could have won the tournament. As it was, we finished fifth."

Since I had never used a slip bobber before, he showed me how to rig it, using his pole, of course. Beneath the bobber, he threaded a night crawler on an 1/8-ounce jig and cast toward the point.

"That's all there is to it," he claimed. "Now just watch it and wait."

I had just started to tie my own when Athon hollered that his bobber had disappeared. He carefully reeled in the slack line and, with a quick turn of his body, set the hook into a solid fish. Moments later, I was netting a fat 3-pounder for him, and as much as I hated to, eating my words.



The slip bobber rig is simple – just a piece of thread, wire or rubber and a bead to stop the bobber, a slip bobber and a hook and you're ready to catch walleye.

Ignoring his "I told you so" look, I hurried to get my own rig tied before he could catch another fish. In the next two hours, we landed nine walleyes in the 2- to 5-pound range and missed several others. I was now a believer.

The day's success was definitely due to the slip bobbers. There was no way we could have fished a traditional drift in the stiff wind. In addition, the point was rocky and would have snagged lots of jigs drifting or casting. A slip bobber was the only way to present the night crawler and jig in the walleye's strike zone while keeping the jig out of the rocks.

A slip bobber rig is simple, yet ingenious. It doesn't operate like the typical fixed bobber system often used for panfish. The first item on the line is the bobber stop, which can be set for any depth. Bobber stops are usually wire, rubber or thread, depending on the brand. They are designed to pass through rod guides and even into the reel if necessary. Next on the line is a small plastic bead, which has a hole just large enough for the monofilament to pass through but small enough that the bobber stop can't. The bobber is threaded on next. A bobber or cork just large enough to stay afloat and streamlined so that it provides little resistance when a fish takes the bait is ideal. Another important factor is visibility. Waves and reflection on the water can make it difficult to see a bobber, so a bright color can be an advantage.

The final piece of tackle is the hook. Many anglers use night

Weed beds, either aquatic or flooded terrestrial, are perfect places to slip bobber walleye. Other good spots include shallow rocky points and flooded farmsteads.

Serious walleye anglers believe the slip bobber rig will catch big walleye by keeping the bait in the strike zone.

crawlers for walleye, and the common lure is a jig with a painted head. The colored head may attract attention to the bait, and red, yellow, chartreuse, or pink are popular. Another option is a small, bare hook tipped with a minnow and a small split shot about a foot above the hook. Leeches can also be excellent bait for walleye.

When asked whether slip bobbers result in bigger fish, Athon didn't have any doubts. And his reason makes sense.

"I think you'll catch bigger fish with this method. You're putting the bait right in front of the fish and keeping it there," Athon said. "Those bigger fish don't like to chase bait because they usually don't have to. If you leave the bait right in front of them, they find it hard to resist. Even when you're casting, you get the bait through an area pretty quickly," he added.

A spinning reel with 8-pound line, and a 6 or 6 1/2-foot, medium or medium/light action rod is perfect for slip bobbering. This outfit allows you to cast the light rig well, and the long rod gives you plenty of leverage for hook sets.

Walleye are known for their hard, toothy mouths, and firm hook sets are required, but certain steps have to be followed to hook fish. When the bobber disappears, an angler should reel in line fast at first to remove slack, then slow down until the fish is felt. Once resistance is felt, it's time to cross the fish's eyes. Setting the hook too quickly after the bobber goes down will only drag the bait out of the walleye's mouth as the slack is dragged through the water and the monofilament stretches.

Slip bobbering works best when the walleye are in water less than 12 feet deep. In deeper water, you're better off casting or fishing vertically. And it's especially effective in very shallow water where a boat drifting or motoring over would scare fish. Walleye are usually caught shallow in April, May and June, and there are several key locations to look for.

Weed Beds

Weed beds can take two forms: permanent aquatic vegetation occurs in lakes with water clear enough to allow it to grow. The second type is a result of flooded terrestrial vegetation when the lake level rises. Both will hold walleye since the weeds attract a variety of walleye foods. Concentrate on open pockets in the vegetation and along the edges where walleye will wait to ambush prey. It's important to set the hook quickly after the strike, and horse the fish out of the weeds to prevent the fish from wrapping the line around roots or vegetation.

Rocky Points

Submerged points are excellent locations for feeding walleye, especially those with rocky bottoms. Points that extend out perpendicular to the shore offer prime walleye ambush points on either side of the shallow ridge. Points that run at angle to the shoreline offer a deer-water trough between the shore and the ridge, as well as deep water on the outside of the ridge where walleye will congregate. Walleye will frequently cruise the deeper water on either side of the point, then periodically move up shallower to feed. Shallow points can be frustrating to fish since jigs will snag frequently. A slip bobber rig can be set to drift the jig and bait just over the rocks, out of snag's way.

Old Home Sites

Impounded reservoirs often flood old farmsteads and the associated buildings, foundations, and hedgerows. These areas can be tough to find, but they are often walleye hotspots. Topographic or old county maps can help you find the general area of these sites, but a graph recorder will be necessary to pinpoint locations. Walleye like to hang out in these structure-filled areas, and a slip bobber keeps the bait in the fish's strike zone while minimizing snag-ups.

Humps and Islands

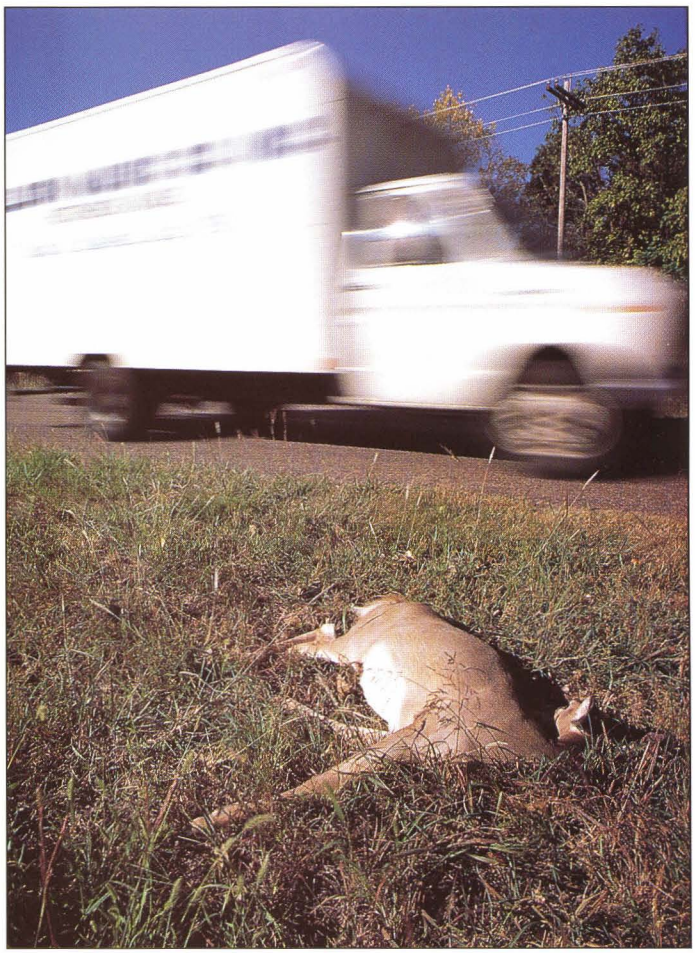
Any location where the lake bottom contour changes drastically, such as where the water depth goes from 20 feet up to 5-10 feet is a likely spot for slip bobbering. Walleye hang out in the deeper water, moving up to feed in the shallower water on top of the submerged humps or islands. Anglers can anchor and the let the wind and wave action move a slip bobber rig slowly across the shallow zone.

Slip bobbering can be a dynamite method for walleye under the right conditions, but anglers have to remain flexible and adapt to changes. Let the weather, wind conditions and fish dictate your angling methods. Add slip bobbering to your angling arsenal, and you'll add more walleyes to your livewell.

ANIMAL ACCIDENTS

text and photos by Mike Blair
staff photographer, Pratt

A slight miscalculation while crossing a fence or flying under a highline can have dramatic and often fatal consequences for wildlife. It's survival of the fittest — and maybe the most alert.



It's hard to say how the coyote got into such a fix. I wanted to backtrack somehow and find out what possessed a wily animal, known to safely dig up the most carefully set traps, to stick its head in an empty pickle bucket. It must have been the smell, but good grief! Could the odor of dill pickles be appetizing?

Anyway, there the coyote stood, exhausted on its feet as I approached to release it. The plastic bucket was opaque, so that the animal couldn't see. It was fitted so tightly against the neck fur that the dog could scarcely breathe. The animal was completely disoriented. I grabbed it by the neck, slipped the bucket from its head, and watched as the coyote ran unsteadily for the horizon. It didn't look back.

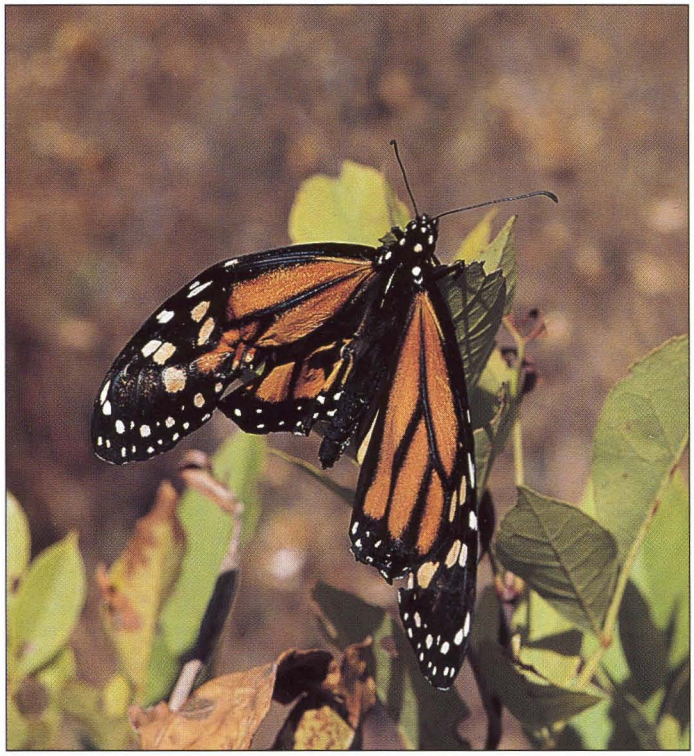
It all sounds funny, but you wouldn't see this episode in a Disney film. Barring rescue, the bucket was a deathtrap for the coyote.

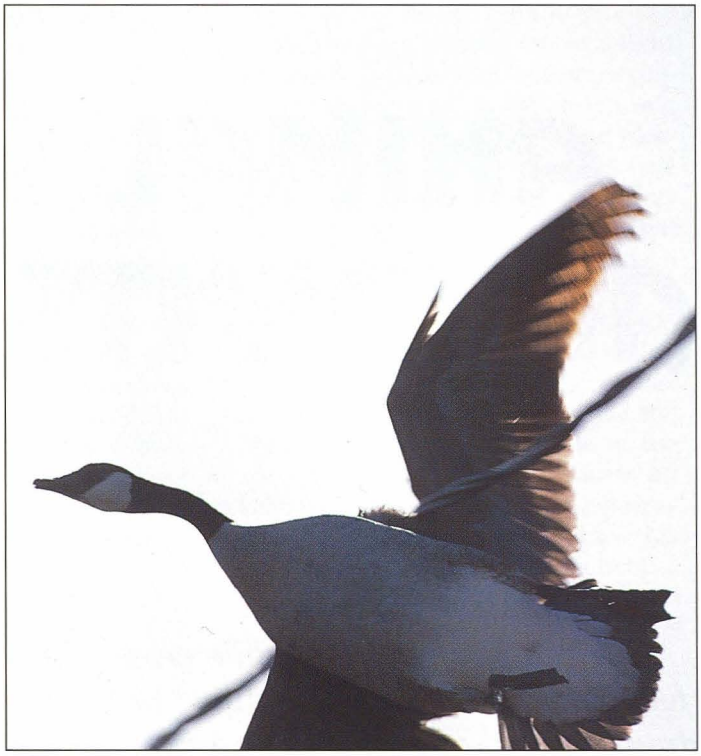
There are many who believe that without man's intervention, wild animals would live in a happy and trouble-free world. Nothing is further from the truth. Wildlife is constantly on guard against natural enemies, and like humans, is subject to accident and disease.

Oops! The hapless coyote stuck his nose where it shouldn't have been. Lucky for him the author came upon the scene in time.

Animal accidents are seldom observed, simply because wild species conduct their lives mostly out of sight. Many species are active at night, and those that aren't, hide when humans arrive. But there is much evidence that wild animals commonly make unhealthy mistakes. It's not pretty when an owl is caught in a fence, or a deer lies dead along a roadway. But these sightings are reminders that animals have accidents.

Some are bizarre. I once found a fresh-dead badger with a kangaroo rat partially protruding from its mouth. Curious, I studied the strange scene and concluded that the prey somehow choked its attacker to death. If the rat





Doomed from the start, this Monarch damaged its wings before ever taking flight. The Canada goose at right made a major miscalculation when flying under this wire. Photographed in mid-collision, the lucky goose appeared to escape without serious injury.

were partially alive while being swallowed, it's possible that it stuck a foot down the badger's windpipe. Odds are against such a thing, but this defines accident.

Many accidents occur during flight. I have often seen fleeing animals carom off obstacles as they looked for pursuers. Deer and antelope hit fences as they run from cars or coyotes, often knocking them to the ground in a cloud of flying hair. Usually, these accidents are not debilitating, but sometimes the animal stays down. Bones are broken, or in some cases, the animal is impaled as it runs headlong into a sharp stick, or hangs itself in the fork of a limb. At other times, the shock of collision is adequate to kill outright. This is particularly true with birds, whose fragile bodies can't tolerate high-speed impacts.

Those who feed birds near windows are often familiar with the problem of songbirds flying into glass. The bird sees a mirror reflection of its outdoor environment and accidentally flies into the solid surface. But similar accidents occur in wide-open spaces. Gene Brehm, KDWP videographer who makes his living filming and observing wildlife, tells of watching a wild turkey fly headlong

It's common for whitetail bucks to battle fiercely during the rut, and occasionally two will become locked. These two locked horns, then stumbled into a pond, sealing their fates in an icy grave.

Remarkably unaffected, this Eastern bluebird sustained an injury to its left leg that didn't keep it from catching prey.

into a cottonwood trunk as it flushed to escape a coyote. Stories of geese hitting powerlines are not uncommon, and raptors often hang in fences as they dive on prey through unseen wires.

As many drivers can attest, automobile collisions are a common type of animal accident. Though most wildlife species have keen hearing and eyesight, the animals are often confused by highway traffic. Day and night, they may bolt directly into the path of an oncoming vehicle, resulting in death or injury to themselves, as well as damage to vehicles. Millions of wild animals die each year along U.S. roadways.

As with man, animal accidents occur during normal activities. An owl flies through tree limbs, scratching an eyeball on an unseen twig. A deer lazily jumps a fence, not quite clearing it, and threads a hind leg through the wires. A sparring buck drops its guard, resulting in the loss of an eye. A muskrat snags a foot in an underwater root and drowns.

Wild animals can overcome handicaps created in accidents, though many perish. Healing occurs quickly, but sometimes there are deformities. It's amazing to see how some animals adapt to difficult circumstances created by accidents.

Animal accidents are just a part of the whole concept of environmental resistance. Everything that works against the force of life is necessary to prevent overpopulation of limited resources. The land has a carrying capacity which cannot be violated. When a raccoon climbs on a high dead limb that breaks beneath it, it's bad luck for the individual, but good for the species. A freak fall feeds a scavenger and lessens pressure on the food and habitat utilized by other raccoons.

Grisly though they often seem, animal accidents are an important part of the natural world. They are a reminder that even in nature, nothing is idyllic.

Glass windows can reflect the outdoor surroundings and become a death trap for songbirds. Deer usually leap fences with amazing ease and grace, but occasionally a rear leg will become entangled, nearly always causing the animal's death.

Fishing 1999 Forecast

The Fishing Forecast was first created in 1995. Since then, fishermen have learned to use this information to select a reservoir or lake that provides the type of fishing they enjoy. The 1999 Fishing Forecast brochure is available from the department's Pratt office or you can access it through the Internet on the department's Homepage at www.kdwp.state.ks.us/

Here's how it works: The information is formulated from data collected by fisheries management biologists through their annual lake monitoring activities (which include test netting and electroshocking). Not every lake is sampled each year, so some lakes are not included in the tables.

The data is separated into two categories -- reservoirs (those larger than 1,000 acres) and lakes (those less than 1,000 acres) — because sampling on small lakes may not be comparable with that on larger reservoirs.

Tables have been created for fifteen popular game species and include a **Density Rating, Preferred Rating,** a **Lunker Rating,** the largest fish taken in sampling, and a **Biologist's Rating**.

The **Density Rating** is the number of fish that were quality size or larger sampled per unit of sampling effort. Quality size, listed in parentheses at the top of the **Density Rating** column, is the length of fish considered acceptable to most anglers and is different for each species. The higher the **Density Rating**, the more quality size or larger fish per surface acre in the lake. Theoretically, a lake with a **Density Rating** of 30 has twice as many quality size fish per acre as a lake with a **Density Rating** of 15.

The **Preferred Rating** is new to the forecast this year. It identifies how many above average size fish a water contains. For example, a lake may have a good density of crappie, but few fish over 10 inches. The **Preferred Rating** tells which lake to go to for a chance to catch bigger fish.

The **Lunker Rating** is similar to the **Density Rating**, but it tells you the relative density of lunker-sized fish in the lake. A lunker is a certain length of fish considered a trophy by most anglers. It also differs with each species and is listed in parentheses at the top of the **Lunker Rating** column. For example, most anglers consider a channel catfish longer than 28 inches a lunker. Many lakes may have a lunker rating of 0, however, this doesn't mean that there are no big fish in that lake. It just means that no lunker fish were caught during sampling, and they may be less abundant than in lakes with positive **Lunker Ratings**.

You can use the **Density Rating** and **Lunker Rating** together. If you want numbers, go with the highest **Density Rating**. If you want only big fish, go with the **Lunker Rating**. Somewhere in the middle might be better choice. A lake with a respectable **Density Rating** and a positive **Lunker Rating** will provide the best of both worlds.

The **Biggest Fish** column lists the weight of the largest fish caught during sampling. A heavy fish listed here can give the lunker fishermen confidence that truly big fish reside in that lake.

The **Biologist's Rating** adds a human touch to the forecast. Each district fisheries biologist reviews the data from annual sampling of their assigned lakes. This review considers environmental conditions that may have affected the sampling. They also consider previous years' data. A rating of P (poor), F (fair), G (good), and E (excellent) will be in the last column. Sometimes the **Density Rating** may not agree with the **Biologist's Rating**. This will happen occasionally and means the **Density Rating** may not accurately reflect the biologist's opinion of the fishery.

Be sure to keep a copy of the 1999 Fishing Regulations Summary in your tackle box. The pamphlet includes a listing of laws and regulations, as well as a table with all the length limits for the various reservoirs and state and community lakes. The pamphlet also has applications for Master Angler and Catch & Release Awards.

Good luck and good fishing!

BLUEGILL

IMPOUNDMENT RESERVOIRS	Density Rating (>6")	Preferred Rating (>8")	Lunker Rating (>10")	Biggest Fish (lbs.)	Bio Rating
Perry	11.1	0.0	0.0	0.4	F
El Dorado	4.9	0.0	0.0	0.4	P
La Cygne	3.3	0.0	0.0	0.4	G
LAKES					
Atchison CL #8	95.5	23.7	0.0	0.5	G
Parker CL	93.3	0.0	0.0	0.3	E
Atchison CL #4	90.7	0.0	0.0	0.3	G
Holton-Elkhorn	88.9	7.8	0.0	0.5	G
KDOT West Borrow Pit	88.3	17.5	0.0	0.7	
Wichita-Chisholm North	72.6	6.6	0.0	0.5	G
Atchison CL #9	65.7	0.0	0.0	0.3	F
Harvey Co. East	64.5	0.0	0.0	0.4	G
Sedgwick Co. Afton	59.3	0.0	0.0	0.3	G
Chanute CL	58.2	0.0	0.0	0.4	G
Emporia-Jones Park Ponds	52.8	0.0	0.0	0.3	G
Brown SFL	48.2	0.9	0.0	0.5	G
Cowley SFL	46.0	9.0	0.0	0.5	G
Garnett CL South	44.0	10.0	0.0	0.5	F
Ft. Scott Community College Pd	43.6	3.6	0.0	0.4	E

CHANNEL CATFISH

IMPOUNDMENT LAKES	Density Rating (>16")	Preferred Rating (>24")	Lunker Rating (>28")	Biggest Fish (lbs.)	Bio Rating
Bourbon Co.	25.0	5.0	0.0	6.9	E
Kingman SFL	24.0	3.0	0.0	6.6	E
Pleasanton East	23.5	2.0	0.5	9.9	E
Nebo SFL	22.0	0.0	0.0	4.6	G
Garnett City North	18.0	8.0	2.0	20.0	E
Richmond CL	18.0	2.0	1.0	8.9	E
Neosho SFL	17.5	1.5	0.0	10.1	G
Graham Co. -Antelope	17.0	4.0	0.0	6.4	G
Chase SFL	16.0	1.0	0.0	9.5	G
Emporia-Lake Kahola	16.0	0.0	0.0	1.4	F
Ft. Scott Community College pd	16.0	1.0	0.0	4.8	G
Meade SFL	16.0	1.0	0.0	8.4	G
Moline CL New	15.0	1.0	0.0	7.7	G
Sedan CL Old	15.0	0.0	0.0	5.0	G
Yates Center CL New	15.0	1.0	0.5	16.0	E
Eskridge-Lake Wabaunsee	14.0	2.0	0.0	6.7	G
Garnett CL South	14.0	1.0	1.0	10.1	G
Horton-Mission Lake	14.0	0.0	0.0	2.8	F
Osage CL	14.0	2.0	1.0	12.4	G

CHANNEL CATFISH

IMPOUNDMENT RESERVOIRS	Density Rating (>16")	Preferred Rating (>24")	Lunker Rating (>28")	Biggest Fish (Lbs.)	Bio Rating
Sebelius	16.0	2.5	1.0	9.6	E
Marion	8.6	3.0	0.4	9.1	E
Glen Elder	8.1	2.3	1.3	14.4	G
Kirwin	8.0	2.0	1.5	19.0	G
Big Hill	7.7	0.7	0.0	8.0	E
Cheney	7.5	1.3	0.3	13.4	G
Tuttle Creek	7.3	1.3	0.6	9.8	G
Coffee Co. Lake	6.1	0.1	0.0	5.0	G
Melvern	5.6	1.0	0.4	17.0	G
Wilson	4.9	1.1	0.0	11.3	G
Webster	4.5	1.5	1.0	15.8	G
La Cygne	4.3	0.0	0.0	3.6	G
Clinton	4.3	0.5	0.0	5.5	G
Lovewell	4.3	1.6	0.5	13.3	G
Perry	3.8	0.6	0.0	10.4	F
Hillsdale	3.5	0.8	0.3	9.9	G
Milford	3.5	0.5	0.0	5.5	G
Cedar Bluff	2.5	1.3	0.5	9.0	G
Toronto	2.5	0.0	0.0	4.3	F
Kanopolis	2.3	0.8	0.3	10.1	E
Council Grove	1.5	0.8	0.5	10.3	F
El Dorado	1.5	0.5	0.0	6.4	G
Fall River	1.3	0.3	0.3	16.0	F
Elk City	1.0	0.0	0.0	4.6	G
Pomona	1.0	0.5	0.5	13.1	F
LAKES					
Pleasanton West	45.0	0.0	0.0	4.1	E
Centralia CL	32.5	29.0	2.0	9.5	E
Gridley CL	29.0	9.0	0.0	9.5	E
Neosho WA	29.0	4.0	0.0	6.1	G
Butler SFL	28.0	7.0	1.0	10.6	G
Melvern River Pond	28.0	2.0	1.0	16.0	F
Sabetha-Pony Creek	25.5	1.5	0.0	6.4	G

FLATHEAD CATFISH

IMPOUNDMENT RESERVOIRS	Density Rating (>16")	Preferred Rating (>24")	Lunker Rating (>28")	Biggest Fish (Lbs.)	Bio Rating
Webster	6.0	5.5	2.0	13.9	G
Cedar Bluff	2.0	0.8	0.3	30.0	G
Kirwin	2.0	0.5	0.0	8.8	G
Kanopolis	1.5	0.8	0.5	15.4	G
Sebelius	1.5	0.5	0.5	14.4	F
Cheney	1.0	0.5	0.3	16.5	P
Melvern	0.9	0.5	0.3	18.6	F
Perry	0.6	0.2	0.2	10.7	F
Clinton	0.5	0.0	0.0	3.2	F
Milford	0.5	0.0	0.0	2.9	F
Toronto	0.5	0.5	0.0	6.4	E
Tuttle Creek	0.5	0.0	0.0	4.9	G
Big Hill	0.3	0.0	0.0	3.4	G
La Cygne	0.3	0.0	0.0	3.0	G
El Dorado	0.3	0.0	0.0	1.5	F
Elk City	0.3	0.3	0.0	10.1	G
Pomona	0.3	0.3	0.0	10.5	F
Marion	0.1	0.0	0.0	3.4	P
Glen Elder	0.1	0.1	0.1	13.2	F
LAKES					
Herington CL (New)	3.5	1.0	0.0	6.8	G
Chanute CL	2.0	0.0	0.0	4.5	G
Crawford SFL	2.0	0.3	0.0	5.4	F
Garnett CL North	2.0	1.0	0.0	10.6	F
Emporia-Lake Kahola	1.0	0.0	0.0	3.9	F
Geary SFL	1.0	0.0	0.0	4.9	F
Horton-Mission	1.0	0.0	0.0	3.2	P
Moline CL New	1.0	0.0	0.0	4.9	P
Osage CL	1.0	0.0	0.0	2.9	P
Carbondale CL West	0.5	0.0	0.0	3.6	P
Douglas SFL	0.5	0.0	0.0	2.8	F
Eureka CL	0.5	0.0	0.0	1.4	G
Holton-Banner Creek	0.5	0.0	0.0	2.4	P

LARGEMOUTH BASS

IMPOUNDMENT RESERVOIRS	Density Rating (>12")	Preferred Rating (>15")	Lunker Rating (>20")	Biggest Fish (lbs.)	Bio Rating
Sebelius	152.8	33.3	0.5	7.2	E
Kirwin	50.7	41.0	0.0	4.2	E
Cedar Bluff	45.1	23.6	0.3	6.6	E
Webster	41.0	21.0	0.0	4.6	E
La Cygne	37.9	17.9	2.5	10.2	E
Wilson	23.4	19.8	1.0	6.7	G
Big Hill	17.1	9.0	2.1	5.2	E
Tuttle Creek	16.0	2.6	0.2	4.6	F
Hillsdale	13.0	9.7	1.2	7.2	G
Toronto	11.3	6.6	0.0	3.1	F
Melvern	11.0	9.4	0.0	4.2	G
El Dorado	10.2	5.8	0.2	5.2	F
Milford	6.0	1.0	0.0	2.5	F
Kanopolis	5.8	2.9	0.0	3.7	F
Clinton	4.2	2.2	0.1	6.7	P
Fall River	2.8	1.4	0.0	3.1	P
Perry	2.7	1.8	0.2	5.8	F
Coffee Co. Lake	1.8	0.7	0.0	2.3	F
Glen Elder	0.7	0.7	0.0	4.0	P
LAKES					
Gridley CL	163.0	11.1	0.0	2.4	E
Graham Co. (Antelope)	106.1	12.1	0.0	2.4	G
Pleasanton West	104.7	0.0	0.0	1.4	E
Severy CL	104.6	26.2	0.0	3.5	E
Garnett CL South	102.0	34.0	0.0	4.0	G
Sheridan SFL	100.0	30.0	0.0	4.1	G
Yates Center CL (New)	99.2	50.4	0.0	2.5	E
La Crosse-Warren Stone	96.9	0.0	0.0	1.6	G
Chanute CL	87.3	27.3	1.8	6.0	G
Miami SFL	86.3	51.3	2.6	6.5	G
Woodson	77.2	52.6	0.0	3.0	G
New Strawn CL	74.2	25.8	0.0	3.0	G
Pottawatomie SFL #1	73.3	21.3	0.0	4.2	G
Moline CL (New)	69.8	12.7	3.2	5.2	E
Ottawa SFL	68.7	15.3	1.3	6.4	E

SAUGEYE

IMPOUNDMENT LAKES	Density Rating (>14")	Preferred Rating (>18")	Lunker Rating (>22")	Biggest Fish (lbs.)	Bio Rating
Wellington CL	22.0	0.0	0.0	1.9	G
Tuttle Creek River Pond	17.0	2.0	0.0	3.2	E
Middle Creek SFL	12.0	2.5	0.0	3.9	G
Anthony CL	10.0	5.0	0.0	3.3	F
Parsons CL	7.5	0.0	0.0	1.1	G
Geary SFL	4.5	0.0	0.0	1.7	
Eskridge-Lake Wabaunsee	4.0	0.0	0.0	0.9	F
Chase SFL	2.0	0.0	0.0	1.4	F
Sheridan SFL	2.0	0.0	0.0	0.9	F
Washington SFL	2.0	2.0	1.0	6.9	F
Clark SFL	1.0	1.0	0.0	4.2	F

SMALLMOUTH BASS

IMPOUNDMENT RESERVOIRS	Density Rating (>11")	Preferred Rating (>14")	Lunker Rating (>17")	Biggest Fish (lbs.)	Bio Rating
Milford	28.0	0.0	0.0	1.0	G
Wilson	14.3	1.8	0.4	3.2	E
Glen Elder	13.6	4.3	0.0	2.1	F
Coffee Co.	11.2	7.2	1.5	2.2	E
Big Hill	8.1	3.0	0.9	3.3	G
Webster	2.5	0.0	0.0	0.7	F
El Dorado	2.4	0.9	0.0	1.7	F
Cedar Bluff	1.9	0.4	0.0	1.3	G
LAKES					
Gridley CL	14.8	0.0	0.0	1.0	G
Woodson SFL	3.5	1.8	0.0	1.5	F
Alma CL	3.3	2.2	0.0	1.4	F
New Strawn CL	3.2	0.0	0.0	0.8	F
Jeffery Eng.Ctr.-Aux.	3.0	3.0	0.0	1.1	F
Eskridge-Lake Wabaunsee	1.8	0.0	0.0	0.8	F
Chase SFL	1.0	0.0	0.0	0.8	P

SAUGER

IMPOUNDMENT RESERVOIRS	Density Rating (>11")	Preferred Rating (>14")	Lunker Rating (>17")	Biggest Fish (lbs.)	Bio Rating
Melvern	5.0	4.4	1.6	2.0	G
Perry	2.2	1.2	0.2	1.7	F
LAKES					
Leavenworth SFL	1.5	1.5	0.5	1.6	P

SAUGEYE

IMPOUNDMENT RESERVOIRS	Density Rating (>14")	Preferred Rating (>18")	Lunker Rating (>22")	Biggest Fish (lbs.)	Bio Rating
Sebelius	28.0	9.5	3.5	9.2	E
Kanopolis	15.8	0.5	0.0	2.5	G
Council Grove	2.3	0.0	0.0	2.2	F
Elk City	2.3	1.0	0.0	2.8	G
Tuttle Creek	0.4	0.1	0.0	2.1	F

SPOTTED BASS

IMPOUNDMENT RESERVOIRS	Density Rating (>11")	Preferred Rating (>14")	Lunker Rating (>17")	Biggest Fish (lbs.)	Bio Rating
Cedar Bluff	44.0	2.0	0.0	1.3	E
Melvern	6.3	1.6	0.0	1.5	F
El Dorado	2.7	0.9	0.0	1.8	P
Sebelius	1.9	0.8	0.6	3.1	F
Glen Elder	0.7	0.7	0.0	1.4	P
Toronto	0.5	0.5	0.0	1.5	P
Big Hill	0.4	0.0	0.0	0.6	P
LAKES					
Bourbon SFL	29.4	4.4	0.0	1.4	E
Wilson SFL	27.5	8.3	0.0	1.7	E
Quivera Scout Lake	19.1	2.6	0.0	1.3	F
Chase SFL	18.0	5.0	0.0	2.2	F
Crawford SFL	17.0	7.4	0.0	1.9	G
Emporia-Lake Kahola	13.0	7.0	0.0	1.9	F
Chanute CL	9.1	0.9	0.0	2.3	F
Eureka CL	6.9	3.9	0.0	2.1	F
Ft. Scott-GunPark East	5.1	2.6	0.0	1.7	P

STRIPER

IMPOUNDMENT RESERVOIRS	Density Rating (>20")	Preferred Rating (>30")	Lunker Rating (>35")	Biggest Fish (lbs.)	Bio Rating
Wilson	6.3	1.0	0.4	18.5	G
Clinton	0.5	0.0	0.0	6.7	P
Cheney	0.2	0.0	0.0	4.3	G
Glen Elder	0.1	0.0	0.0	5.3	P
LAKES					
Crawford SFL	1.5	0.0	0.0	5.0	F

WALLEYE

IMPOUNDMENT RESERVOIRS	Density Rating (>15")	Preferred Rating (>20")	Lunker Rating (>25")	Biggest Fish (lbs.)	Bio Rating
Cheney	19.7	0.2	0.0	4.3	G
Lovewell	15.6	3.6	1.7	8.4	E
Webster	13.0	3.0	0.0	5.4	F
Kirwin	11.5	1.0	0.0	5.9	F
El Dorado	10.3	0.8	0.3	7.5	F
Glen Elder	10.2	4.4	1.2	8.1	G
Coffee Co.	9.3	0.3	0.0	5.0	G
Hillsdale	8.5	5.3	2.3	7.8	G
Marion	7.6	6.1	1.0	7.5	G
Milford	6.3	2.3	0.8	7.2	G
Melvern	4.4	0.1	0.0	3.0	G
Wilson	4.0	2.0	0.6	6.7	F
Clinton	3.8	0.5	0.3	8.0	F
Kanopolis	3.5	2.5	0.5	5.3	F
Cedar Bluff	1.0	1.0	0.8	6.7	F
Big Hill	0.7	0.0	0.0	2.9	P
Sebelius	0.5	0.5	0.0	5.1	P
Council Grove	0.3	0.3	0.3	5.8	P
Pomona	0.3	0.0	0.0	1.7	F
Tuttle Creek	0.3	0.1	0.0	4.5	P
LAKES					
Emporia-Lake Kahola	44.0	1.0	1.0	6.6	G
Gridley CL	17.0	0.0	0.0	1.9	F
Wyandotte Co.	16.0	0.0	0.0	1.5	G
Jewell SFL	12.0	11.5	2.5	7.1	F
Alma CL	10.0	0.0	0.0	2.1	F
Sabetha-Pony Creek	10.0	0.0	0.0	2.5	G
Eskridge-Lake Wabaunsee	9.0	8.0	0.0	5.7	G
Jeffery Eng.Ctr.-Aux.	9.0	2.0	0.0	4.5	G
Shawnee SFL	9.0	0.0	0.0	1.3	F
Herington SFL (New)	6.5	2.5	0.5	6.8	G
Pratt Co.	6.0	6.0	2.0	8.5	F
Wellington CL	6.0	6.0	2.0	7.4	G

WHITE BASS

IMPOUNDMENT RESERVOIRS	Density Rating (>9")	Preferred Rating (>12")	Lunker Rating (>15")	Biggest Fish (lbs.)	Bio Rating
Kanopolis	92.8	28.5	1.8	1.4	E
Wilson	72.4	64.0	1.9	4.7	E
El Dorado	67.8	16.3	0.3	1.6	G
Marion	34.5	19.6	5.0	2.6	G
Cheney	27.0	14.5	0.5	2.1	G

WHITE BASS

IMPOUNDMENT RESERVOIRS	Density Rating (>9")	Preferred Rating (>12")	Lunker Rating (>15")	Biggest Fish (lbs.)	Bio Rating
Coffee Co.	26.5	20.6	0.9	3.2	G
Glen Elder	25.0	21.5	0.0	1.6	E
Melvern	17.9	8.6	1.0	2.1	E
Clinton	16.8	13.5	0.8	1.7	G
Lovewell	16.8	3.4	0.6	2.3	G
La Cygne	14.3	5.0	0.0	1.0	G
Fall River	13.0	10.7	1.3	2.6	G
Milford	12.5	7.0	0.0	1.4	F
Cedar Bluff	12.3	12.3	5.0	2.4	G
Big Hill	8.3	7.7	1.3	2.1	G
Perry	7.8	3.2	0.2	1.9	F
Tuttle Creek	7.5	5.1	1.0	1.9	G
Kirwin	6.0	0.5	0.0	1.5	P
Toronto	4.5	3.5	0.5	2.2	G
Hillsdale	4.0	0.5	0.0	1.3	P
Council Grove	0.5	0.3	0.3	1.9	P
Elk City	0.3	0.3	0.3	1.8	G
LAKES					
Clark SFL	50.0	45.0	6.0	2.4	F
Ft. Scott CL	40.5	38.5	12.5	2.6	E
Jeffery Eng.Ctr.-Aux.	24.0	23.0	8.5	2.3	G
Herington CL (New)	23.5	17.0	0.5	1.5	G
Jeffery Center Make-up	19.0	9.0	0.0	1.0	G
Lyon SFL	17.0	13.5	0.0	1.1	G
Paola CL	14.0	9.5	3.5	2.7	G
Middle Creek SFL	12.5	9.0	1.5	1.9	F
Sedgwick Co. Lake Afton	9.0	1.0	0.0	0.8	F
Carbondale CL West	4.0	1.5	0.5	1.7	P
Gardner CL	4.0	3.5	2.0	2.5	P
Melvern River Pond	4.0	3.0	3.0	2.4	P
Herington CL (Old)	3.0	3.0	0.0	1.5	F

WHITE CRAPPIE

IMPOUNDMENT RESERVOIRS	Density Rating (>8")	Preferred Rating (>10")	Lunker Rating (>12")	Biggest Fish (lbs.)	Bio Rating
Marion	118.6	38.0	9.8	1.9	E
Council Grove	50.0	14.8	5.0	1.8	G
Perry	31.4	12.4	0.9	1.3	G
Melvern	25.5	16.5	4.8	1.4	E
Clinton	24.1	4.7	0.4	1.8	G
Sebelius	15.6	10.6	1.0	1.0	G
Hillsdale	14.1	6.3	0.7	1.2	G
Big Hill	8.1	0.9	0.1	1.2	E
Pomona	8.1	2.8	0.2	1.4	G
La Cygne	4.9	1.6	0.1	1.4	G
Cheney	4.8	3.7	1.0	1.1	P
Tuttle Creek	4.6	2.4	0.2	1.4	G
Milford	4.1	1.3	0.3	1.3	F
Glen Elder	3.5	1.7	1.0	1.4	P
Cedar Bluff	2.9	1.1	0.3	1.2	E
Kanopolis	2.3	1.9	0.6	1.8	G
El Dorado	1.6	0.8	0.2	0.9	P
Kirwin	1.4	0.7	0.4	1.5	E
Webster	1.3	0.5	0.0	0.6	G
Elk City	1.2	0.2	0.2	1.1	F
Wilson	1.0	0.6	0.3	1.1	G

WHITE CRAPPIE

IMPOUNDMENT LAKES	Density Rating (>8")	Preferred Rating (>10")	Lunker Rating (>12")	Biggest Fish (lbs.)	Bio Rating
Anthony	87.0	63.0	8.3	1.8	E
Sheridan SFL	67.8	2.0	0.0	0.6	G
Logan CL	65.8	12.8	1.3	1.0	G
Ottawa SFL	51.5	11.5	1.5	0.7	E
Horton-Mission	46.5	8.5	2.5	1.5	G
Herington CL (Old)	35.0	24.8	6.3	1.4	G
Coldwater	30.5	18.5	1.5	1.1	G
Carbondale CL West	29.5	4.3	0.5	1.0	G
Plainville	27.8	3.8	0.0	0.7	F
Chanute CL	27.5	2.5	0.0	0.4	F
Chase SFL	26.5	2.5	0.0	0.5	F
Fort Scott-Rock Creek	26.0	14.0	2.0	1.2	E
Olathe-Lake Olathe	25.3	4.3	0.6	1.0	F
Herington CL (New)	24.0	4.0	0.2	0.8	G
FT. Scott Community Pond	19.0	18.0	2.0	1.0	E

BLACK CRAPPIE

IMPOUNDMENT RESERVOIRS	Density Rating (>8")	Preferred Rating (>10")	Lunker Rating (>12")	Biggest Fish (lbs.)	Bio Rating
Webster	15.4	5.7	0.8	1.3	E
Kirwin	12.8	2.1	0.6	1.6	G
Sebelius	12.5	7.5	1.0	1.1	G
Kanopolis	3.3	2.8	0.4	1.1	G
Cedar Bluff	2.9	0.2	0.0	0.6	E
Wilson	2.2	0.9	0.0	0.7	G
Marion	2.1	1.0	0.1	1.1	F
Clinton	0.8	0.2	0.0	0.7	P
Hillsdale	0.7	0.2	0.0	0.6	P
Glen Elder	0.3	0.3	0.1	1.0	P
El Dorado	0.3	0.1	0.0	0.6	P
Perry	0.1	0.0	0.0	0.7	P
LAKES					
Graham Co. (Antelope)	79.0	14.5	1.0	1.1	E
Holton-Prairie	48.2	4.0	0.3	1.0	G
Butler SFL	40.8	0.5	0.0	0.6	F
Centralia CL	26.5	18.3	0.0	0.8	E
Plainville	24.3	0.0	0.0	0.3	F
Pottawatomie Co.	21.3	0.3	0.3	0.9	G
Atchison SFL	21.0	6.3	0.3	1.0	G
Logan CL	20.3	0.0	0.0	0.5	P
Cowley SFL	15.5	5.3	0.0	0.7	F
Atchison CL #8	12.5	3.5	0.0	0.7	F
Bourbon SFL	12.5	10.5	0.5	1.0	G
Neosho SFL	12.3	3.0	0.0	0.7	F
Brown SFL	9.8	3.0	0.0	0.7	F
Leavenworth SFL	9.5	0.5	0.2	0.9	F
Richmond CL	8.3	0.8	0.0	0.6	G
Shawnee Co.-Lake Shawnee	8.0	0.0	0.0	0.4	F
Douglas Co.-Lonestar Lake	7.7	0.0	0.0	0.4	P
Waterville-Ldlewild lake	7.7	5.0	0.0	0.9	G
Garnett CL South	7.5	4.0	0.5	1.1	F
Atchison CL #2	7.0	5.0	0.5	0.9	F
Yates Center South Owl Lake	6.0	0.0	0.0	0.3	F
McPherson SFL	5.8	0.0	0.0	0.3	P
Great Bend-Vets Park Lake	5.0	1.0	0.0	0.6	F
Middle Creek SFL	5.0	0.3	0.2	0.9	F

WIPER

IMPOUNDMENT RESERVOIRS	Density Rating (>12")	Preferred Rating (>15")	Lunker Rating (>20")	Biggest Fish (lbs.)	Bio Rating
Webster	35.5	15.0	7.5	11.9	E
Cedar Bluff	18.5	13.8	5.3	6.6	E
Milford	18.3	12.0	5.0	5.3	G
La Cygne	16.0	12.7	4.7	5.1	E
Sebelius	11.0	9.0	2.5	10.2	G
Kirwin	10.5	10.0	0.0	3.9	G
Marion	7.4	7.4	6.5	10.2	G
Kanopolis	7.0	0.3	0.3	14.8	F
Cheney	5.0	3.3	0.2	4.0	F
Coffee Co.	4.9	4.3	0.2	3.2	G
Pomona	4.0	1.0	0.5	4.1	G
Lovewell	1.9	1.5	1.0	5.5	F
LAKES					
Jeffery Energy Make-Up	27.0	5.0	3.0	5.9	G
Gridley CL	16.0	6.0	0.0	3.8	G
Jetmore CL	11.0	9.0	6.0	6.3	E
Paola CL	10.5	0.0	0.0	0.9	F
Shawnee Co. Lake Shawnee	10.0	7.5	3.5	3.9	G
Logan SFL	8.0	8.0	0.0	3.8	
Herington CL (New)	7.5	2.5	0.0	4.0	F
Woodson SFL	5.5	5.0	2.0	3.8	E
Johnson Co. Shawnee Mission	5.0	5.0	3.5	6.5	G
Middle Creek SFL	4.0	0.0	0.0	1.1	P
Wellington CL	4.0	4.0	2.0	4.3	F
Pleasanton East	3.5	3.5	1.0	6.3	G
Finney Co. Concannon	3.0	3.0	3.0	4.1	P
Douglas Co. Lonestar	2.5	2.5	2.0	9.8	F
Chanute CL	2.0	1.0	0.0	3.7	F
Sheridan	2.0	0.0	0.0	0.7	

Edited by Mark Shoup

TAG RIGHT?

Editor's Note: *The following e-mail message came in last fall. It is presented here and replied to as in real time, that is, last November. Actual permit numbers have been changed.*

Editor:

Hit me. I am an idiot. I obtained a firearm deer tag last summer and on Nov. 2, I decided to get a deer game tag, so I could archery hunt. I mentioned to the clerk that I had a firearm tag. He filled in the archery tag and had me sign it. We both must have been asleep. He sold me a statewide archery permit! I walked out the door confused but not checking the regulation pamphlet in my pocket because I figured the vendor knew them. I got home and realized that we were both extremely ignorant and that I was in violation of the law. The store had closed as I walked out.

I went back to the store the next morning, wrote VOID on my permit and explained the situation. I asked if they could void their paperwork. They seemed somewhat confused, and I never saw their paperwork. They assured me that they would take care of it, kept my "voided" permit, sold me a whitetail antlerless deer game tag, gave me $20 back, wrote my other tag number on the license, and sent me on my way. I asked if I should send in the voided tag. (I was afraid that it would fall through the cracks and I'd be arrested.) They assured me again that they would take care of it. I didn't get any names. I didn't do anything right. I, instead, made another mistake.

The "primary" permit I pulled out of my wallet was my fall firearms turkey permit. Neither I nor the vendor caught this error. My firearm turkey tag number is 333. My firearm deer permit number is 222. My now worthless whitetail antlerless deer game tag, with my firearm turkey permit # on it, is number 999. I am in violation of the law again! I will not use my whitetail antlerless deer game tag. I will wait for you to fine, arrest, incarcerate, and/or cull me from the population to prevent my stupidity gametes from contaminating the gene pool. I will not go back to the vendor to attempt to rectify this situation. I will wait for your instructions and judgement.

I am embarrassed and sorry. My belief that I am an extremely ethical hunter has been shattered. It is my duty, not the vendor's, to ensure that I avoid violating the game laws – in the stores as well as in the field. I apologize to my former Hunter Education instructors and the people of Kansas. Fines, suspension of privileges, confiscation of hunting gear, community service and more are, no doubt, called for. I hope my prompt attempt to rectify my wrong will convince my fellow citizens and the protectors of Kansas wildlife to show me mercy.

Of course, feel free to use this fine example of stupidity, with my name attached, in your magazine. I deserve the public humiliation.

Frederic Jacob Gutknecht IV
Lawrence

Dear Mr. Gutknecht:

I have checked with Vicki in the vendor license section about the permit through your vendor. She will make sure that your statewide archery permit # 888 is returned as a VOID. You may change the primary permit number on your game tag to your firearms deer permit # which is XXXX. We will correct it on the copy from your vendor.

So I understand the corrections, you should have your firearms deer permit #808802 for unit 10, a whitetail antlerless deer game tag #96907 (corrected original #908802), and a fall firearms turkey permit #98934.

-Raeanne Holmes, big game, Pratt

Another Editor's Note: *Once again, licensing saves the day. Don't worry, hunters; these folks will take care of honest mistakes. --Shoup*

BLUE TONGUE IN DEER?

Editor:

A farmer near the land I hunt has a cow with blue tongue. I don't know if this is the medical term, but most farmers call it blue tongue. I have been told that this can be contracted from other infected cows or deer. I am told that infected animals have sores in their mouth, high fever, excessive slobber, and eventually their throats swell shut and they die. Is this all true? What signs do deer show when they get this?

I am concerned about how to spot this in deer. Accordingly, I am concerned about venison. If an animal is infected, will it show signs immediately? If I get a deer and I somehow don't realize it is infected, what are my risks in eating the meat?

Russ Revey
Spring Hill

Dear Mr. Revey:

Blue tongue (BT) and a similar disease in deer called epizootic hemorrhagic disease (EHD) are viral diseases of wild and domestic ruminants. There are two serotypes of EHD and five serotypes of BT.

The clinical signs are highly variable. EHD in cattle is frequently a mild disease or goes unnoticed. If the animals have a low resistance, or if the strain of the virus is virulent, the animals may die from this virus. Clinical signs could include swelling of the tongue. Generally, the disease is most active in the conjunctive tissues, like the lining of the tongue, the lining of the rumen, or the lining under the hoof. Frequently, animals with a mild case of the disease will become depressed, stop eating or become lame.

One of the signs we look for in deer that have had this disease is hooves that are deformed from interrupted growth or hooves that have sloughing of the walls. In severe outbreaks of EHD in deer, hunters may find sick or dead animals near water.

The disease is spread by biting midges. It tends to be more common in the late summer or fall in years with low rainfall. This concentrates animals around stagnant pools where the midges breed.

Last deer season, we were in the midst of an EHD "event." It occurred in Illinois, Indiana, Iowa, Missouri, Nebraska, and perhaps other states. Conditions were perfect. It had been many years since we had a significant die off, so the herd had a low resistance. Few deer would have antibodies to the various strains. We also had a dry late summer and fall.

I had three employees call about suspicious deer. Unfortunately, nobody collected a specimen that we could use for testing. These are difficult viruses to work with. Generally, you must send samples to the lab within 24 hours of the animal's death. We get animals that have been dead for two days to a month, and there is no way of isolating the virus; thus, we think we had an outbreak but we may be unable to confirm it.

EHD can be dramatic. There have been outbreaks that killed 25-50 percent of a population. There have also been outbreaks that killed 10 percent of all the deer with radio collars in an area, but the disease went undetected by COs, biologists, and rural residents.

These viral diseases do not infect humans. However, chronically ill animals may develop secondary bacterial infections. These could be harmful to humans and make the meat from the sick animals unfit for consumption. There is frequently a foul odor and puss associated with these secondary infections. Bacteria can be killed by proper cooking; however, it is not recommended that the meat from an animal with a bacterial infection be eaten by humans.

-Lloyd Fox, big game coordinator, Emporia

KANSAS VIPER?

Editor:

Would you please settle a long-standing argument that I have with one of our neighbors? He claims that they have snakes that are called spreading vipers in the sand hills behind their farm. I am pretty sure that there was an article in ***Kansas Wildlife and Parks*** magazine that said that what the old-timers called the spreading viper is actually the hogsnake. Am I right, or is my "old-timer" neighbor right?

Bonita Meyer
Belpre

Dear Ms. Meyer:

You're right, almost. A common local name for the hognose snake is the spreading viper, which is really a misnomer. The family Viperidae is comprised of vipers and pit vipers, which include our venomous snakes such as the copperhead, rattlesnake, and cottonmouth. The hognose is not a viper.

Both eastern and western hognose snakes may be found in your area. They live in sandy-soil grasslands, feeding primarily on toads and frogs. A fascinating species, the hognose will flatten its neck, or hood, and hiss to ward off predators, hence the name spreading viper. As a last resort, the hognose will convincingly feign death, writhing upside down and even regurgitating a recent meal.

-Miller

LOVE KANSAS!

Editor:

My sons and I left our house at midnight on Friday night last fall so that we could buy our licenses and be hunting when it got daylight. We were close but made it just as the sun came up. We started out on private land and saw several hens before a rooster jumped up. I don't know about you, but when a hen jumps up under my feet, I just about have heart failure.

We killed 13 birds on Saturday and Sunday. We saw a lot of birds both days but had trouble getting in range of the roosters. They seemed to be very jumpy. We did not shoot at any quail the first day although we saw several coveys. On Sunday, we hunted both quail and pheasants. I think that we killed about 10 quail during the time when we weren't hunting pheasants.

The next time we get to go, we plan to hunt quail more. The Walk-In areas were productive for us. Although there were several hunters, everyone was polite. The Walk-In areas are the best thing to come along for nonresidents that I can think of. For the most part, they are just about as good as the private land. We did see one party of so-called hunters driving around in a pickup in one Walk-In area, but they left when they saw us.

Western Kansas is now one of my favorite places around; I am thinking about moving there when I take early retirement if I can find a job to supplement my income for a few years.

Anyway, we really had a great opening weekend. Thanks so much to you folks at the Department of Wildlife and Parks for all the work you have done, especially the Walk-in-areas. Your habitat is much better than we have in Oklahoma, for the most part.

Johnny Nichols
Pryor, Oklahoma

THANKS FOR PHOTOS

Editor:

Just a note to compliment you for the outstanding Jan./Feb. 1999 photo issue. Some really spectacular shots that make those of us who use cameras jealous.

Joel Vance
Russelville, Missouri

SLOW DOWN

Editor:

I just finished your fine article on learning to slow down (**Kansas Wildlife and Parks**, Nov./Dec. 1998, Page 45). As I approach my 82nd birthday, I have to admit I am darn near to a crawl but still enjoying my outings. Missed one day of the first duck season – did not hit a bird. But that's not important any more. I feel lucky to be with my friends and family, which now include my great-grandsons.

I hope you do, too, when you're in your 80s.

Hugh Dennis
Eureka

LIFETIME LICENSE SCAMS

Local conservation officers review some 1,500-2,000 lifetime license applications annually and discover that a significant number are inappropriate. Some of these discoveries result only in denied applications. Others result in prosecution. Kansas lifetime hunting and fishing licenses may be purchased only by Kansas residents, and applications are screened for possible fraud.

One instance of fraud involved a Missouri man who tried to pull a fast one. I discovered that he altered his Kansas business address and listed it as his residence. He also indicated on his application that he had previously purchased a hunting license and deer and turkey permits. Investigation revealed that he purchased all three in Johnson County using the bogus address.

U.S. Fish and Wildlife Service Agent Case Vendel (now retired) assisted me when I interviewed the individual. The Missourian admitted shooting ducks in Linn County with the fraudulent hunting license. We seized the license and eight ducks. He was charged with false representation to obtain the annual hunting license and two permits, and with taking ducks illegally. Those four charges cost him $1,030 in fines and costs.

In addition, the man was charged with a felony in Pratt County for his misrepresentation to obtain a lifetime license. The charge was resolved when he signed a diversion agreement. This required him to be law-abiding for a year, and he had to pay $645 in fees and costs. He also forfeited the $240 he paid for the lifetime license.

A lifetime license allows hunters to apply for Kansas big game permits as residents, even if they have moved out of the state. That advantage coupled with the difference in cost tempted this fellow to cheat, but he ended up with misdemeanor and felony charges and paid a grand total of nearly $2,000.

–Bruce Bertwell, conservation officer, Olathe

ONE THING AFTER ANOTHER

In Nov. 1997, a Johnson County bowhunter was approached by a land manager who told him he was trespassing. The bowhunter noticed blood in the back of the man's truck and asked him about it. His response made the bowhunter believe the man had killed a deer illegally, so he contacted me and gave me the man's name and address.

I went to the man's residence, where I saw the decomposed head of a big-racked whitetail buck. I asked about it, and the man told me he had removed it from a deer he found dead in a pond. (He hadn't contacted me or any other authority for a salvage tag to take the head.) We went to the pond, and there I found skeletal remains of at least two deer, including another buck. He said he didn't know about the other deer parts, how the deer he salvaged got there, or how or when it died.

He told me the blood in his truck was from a doe he found caught in a fence on the rural property he was managing. He had shot the deer and butchered it. (Again, he had not contact anyone to get the required tag. Records indicated that he had received a tag for the road-killed deer, so it was clear to me that he knew about the salvage permit.) I asked about any other deer parts in his possession, and he said he had a hind leg from a roadkill in his freezer, which also contained mink, muskrats, and raccoons.

He said the furbearing animals were hunted or trapped in prior years and that some of his raccoon hunting had occurred on property other than the land he was managing. He couldn't produce any furharvester's license or special permit to possess the furbearers after the close of the season in which they were taken.

Investigation revealed that he had no permission to go onto the pond property where he said he had found the dead buck. I also learned that he didn't own or manage the property where he had challenged the bowhunter. He had never taken a required furharvester education course.

The man was charged with unlawful possession of an untagged deer and unlawful possession of furbearing animals. He was found guilty on both counts and was assessed fines and costs totaling $595 and was sentenced to 60 days in jail. However, $250 and the jail time were suspended, provided that he complete 60 hours of service and attend a hunter education course. The meat, furbearers, and buck head were confiscated.

–Bruce Bertwell, conservation officer, Olathe

SHOOTING IN THE RAIN

On Saturday, Oct. 31, 1998, I got a call from a farmer north of Lakin who said he heard two shots as he was leaving his shop. I immediately drove to the area, followed by Kearney County Sheriff's Deputy Dave Horner.

About 6:20, we saw four men returning to the pickup. Three were carrying firearms: a 12-gauge shotgun, a .22 rifle, and an SKS rifle. The men claimed that they were just trying out the SKS to see if they wanted to buy it. Because we could find no hard evidence of wrongdoing, they were allowed to leave.

On Nov. 1, CO Dennis Sharp, Holcomb, and I returned to the area and immediately found a hunting knife in the grass. The knife had deer hair on it. Sharp was able to track the men's trail until we found a dead mule deer doe. Pictures were taken of the deer and a broken fence post used to carry it. Then we confiscated the deer.

With the help of Finney County deputies, we contacted one of the men, who agreed to meet with us. Through this man, we were given the complete story that they had killed the deer. As a result, one man paid $795 in fines and court costs, another paid $895, and another paid $145. As of this writing, the fourth man was still at large.

–Bruce Peters, conservation officer, Lakin

Grant For Kansas Ducks

Ducks Unlimited (DU) has recently received a grant from the North American Wetlands Conservation Act (NAWCA) to improve wildlife habitat in Kansas. The $297,759 grant - and additional money from DU, The Nature Conservancy, the Kansas Department of Wildlife and Parks, the U.S. Fish and Wildlife Service, and private donors -- will be used to restore, enhance and protect areas of the McPherson Valley Wetlands northeast of Hutchinson.

Historically, this wetland complex was an oasis for migrating waterfowl and other wetland-dependent wildlife, but most of the wetlands were drained for agriculture in the early part of this century. More than 200 bird species were documented in the area between 1909 and 1927, including white-faced ibis, whistling swans, snowy plovers, greater prairie chickens, prairie falcons, and bald eagles.

Through a previous NAWCA grant, nearly 1,800 acres of the McPherson wetlands were acquired and protected as wildlife areas. Ducks Unlimited and a number of partners have restored or enhanced 400 of those acres as functioning wetlands.

This work has already helped increase the number of bird species that use the area by 27 percent. Recent counts have documented at least 112 bird species at the area, including several threatened or endangered species. In 1995, a whooping crane was spotted on the area for the first time in 100 years.

The new NAWCA grant will help with the acquisition of an addition 560 acres and the restoration of 686 acres of previously-acquired land. DU and its partners will build levees and other water-control structures and install pumps to manage water at ideal levels for wildlife, especially during critical migration periods.

Work at McPherson and other wetland areas helps control soil erosion by slowing water flow. Aquatic plants in the restored marshes filter and trap sediments carried by run-off, helping reduce water pollution, and trapped water helps recharge underground aquifers. There are recreational benefits, as well, including hunting, bird watching, and nature study.

DUCKS UNLIMITED®

Enacted in 1989, NAWCA is a federal matching program designed to help meet the goals of the North American Waterfowl Management Plan. Every federal dollar invested in conservation through NAWCA generates more than two dollars from state, local, and private sources. Already, NAWCA has helped fund more than 500 wetland conservation projects in 46 U.S. states, Canada, and Mexico, restoring more than 3.5 million acres of wildlife habitat.

The $297,759 NAWCA grant for the McPherson project was made possible by an additional $849,500 raised by the Kansas Department of Wildlife and Parks, the U.S. Fish and Wildlife Service, DU, the Kansas Chapter of The Nature Conservancy, and several other sources.

-Shoup

SPORTSMEN WIN ELECTIONS

On election day 1998, American sportsmen and women reversed the trend of losses on voter issues and won the vast majority of the ballots dealing with hunting and trapping in the U.S.

Leading the lineup of sportsmen's wins was a tremendous come-from-behind victory in Ohio where animal rights forces had sent State Issue 1 to voters. This called for a ban on dove hunting. The voters turned back the hunting ban by a landslide 60 percent to 40 percent margin. A concentrated pro-hunting campaign that generated some $2.5 million dollars apparently turned around a pre-election forecast that predicted a 56 percent to 44 percent defeat for hunters.

In a more proactive measure, Minnesota voters passed Amendment 2 by a 77 percent to a 33 percent margin. This amendment establishes hunting and fishing as valued parts of "our heritage that shall be forever preserved for the people and shall be managed by law and regulation for the public good."

In Utah, Proposition 5 established a two-thirds majority as necessary to pass any future initiative that would affect wildlife, including proposed hunting, trapping, or fishing bans. This proposition passed by a 56 to 44 percent margin.

While not aimed specifically at the interests of sportsmen and women, Wyoming passed a similar measure requiring that 15 percent of registered voters in two-thirds of the state's counties sign an initiative before it is placed on the ballot. Both the Utah and Wyoming initiatives limit the ability of special interest groups - including anti-hunting groups - to get initiatives on the ballot.

And in Alaska, voters turned back a measure that would have banned snaring of wolves by a 63 percent to 37 percent margin.

Only in California did sportsmen lose, where voters approved a trapping ban by a 57 percent to 43 percent margin.

-Wildlife Legislative Fund of America

GROUP POSITIONS ON HUNTING

Folks wondering where their favorite "conservation" group stands on the issue of hunting should check out the National Shooting Sports Foundation's (NSSF) brochure "What They Say About Hunting." This booklet outlines the positions on hunting in America of 20 prominent national organizations.

Although most Americans may not know it, the Humane Society is, in the organization's own words, "strongly opposed to the hunting of any living creature for fun, trophy, or sport." Conversely, the National Wildlife Federa-

tion "support[s] hunting because, under professional regulation, wildlife populations are a renewable natural resource that can safely sustain taking."

Widely recognized as the most authoritative collection of viewpoints held by a cross section of national organizations concerned with wildlife, "What They Say" contains the actual position statements written by each organization.

Copies of "What They Say About Hunting" are 50 cents each, 48 cents each in lots of 100, and 46 cents in lots of 500 or more. To order, contact NSSF, 11 Mile Hill Road, Newtown, CT 06470-2359. For other literature visit NSSF on the web at http://www.nssf.org/wtsah.html. *-Shoup*

"IRON EYES" CODY DIES

Veteran Native American actor and environmentalist Oskie "Iron Eyes" Cody, famed for playing braves, medicine men, and warrior chiefs in an 80-year film career, died in January. Cody was 94. Although he appeared in such films as a "A Man Called Horse" and "Wild Bill Hickok," it was a television commercial that won him the most fame. He was the Indian who shed a tear for a blighted American environment in "Keep America Beautiful" ads that ran from 1971 into the 1980s.

-Reuters News Agency

ANTI-HUNTING SUIT DISMISSED

A lawsuit by several anti-hunting organizations meant to halt an urban goose control program in Minnesota's Twin Cities area has been dismissed. The case, dismissed "with prejudice," was termed a "wild goose chase" by the presiding judge.

The case was brought by the Humane Society of the United States (which has recently opened a Twin Cities office), Friends of Animals and Their Environment (FATE), and the Minnesota Humane Society. The groups had asked for a temporary injunction against the control program, to be conducted by the Minnesota Department of Natural Resources under a permit granted by the U.S. Fish and Wildlife Service.

The control program, which included processing geese for area food pantries, was deemed necessary to stem the burgeoning urban goose problem. The Nov. 2 ruling stated that the court "had real work to do." The Minnesota agency expects to again conduct the program in 1999.

- The Hound and Hunter

WAY outside

BY BRUCE COCHRAN

"I NEVER ACTUALLY LEARNED TO PLAY IT BUT IT MAKES A GREAT GOOSE CALL."

FIRST COLLINS AWARD

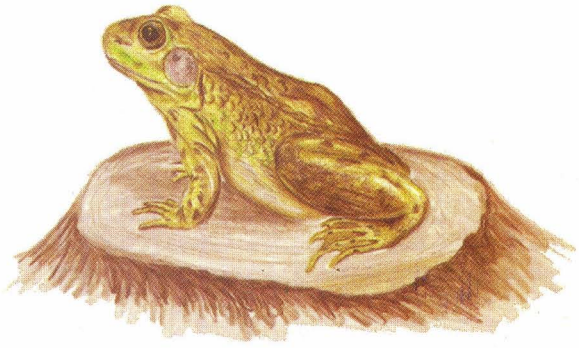
On Nov. 7, Travis W.Taggart, first-year doctoral student at the KU Medical Center in Kansas City, was chosen as the first recipient of the Suzanne L. & Joseph T. Collins Award for Excellence in Kansas Herpetology. Taggart, son of Germaine and Bruce Taggart (Region 1 Public Lands supervisor) received an undergraduate degree at Fort Hays State University and a masters degree from Southeast Louisiana State University. He is currently pursuing a doctoral degree in molecular biology.

At the banquet, James L. Knight, formerly of Salina and now with the South Carolina State Museum and representing The Center for North American Amphibians and Reptiles, joined Kansas Herpetological Society (KHS) President John Lokke in presenting Taggart with a commemorative plaque and a check for $1,000.

The Collins Award is the largest biology award given annually in Kansas and one of the largest awards given for research on reptiles and amphibians worldwide. Recipients of the Collins Award are selected from among those scientific presentations and papers that were given or published in the preceding two years (1996 and 1997). The paper published by Taggart in 1997 in "KHS Newsletter 109" was entitled "Status of *Bufo debilis* (Anura:Bufonidae) in Kansas."

The nomination was sponsored by the Kansas Department of Wildlife and Parks and provided extremely valuable information about the natural history and status of the green toad (*Bufo debilis*), a threatened species of amphibian in Kansas. As provided for in the conditions of the award, at next year's meeting of the KHS in Pratt, the Collins Award will be given for the best photograph of a native Kansas amphibian or reptile by a KHS member. The award alternates each year, with scientific research honored in even-numbered years and photography in odd numbered years.

--Kansas Herpetological Society



SPAWNING WALLEYE

In Kansas, walleye reproduce when water temperatures are about 45-50 degrees. This is usually late March or early April. Groups of males congregate on shallow, silt-fee, rocky bottoms and rip-rapped dam faces where they await the arrival of females ready to spawn. Eggs and sperm are scattered and abandoned.

Spawning males are generally concentrated in one particular area and tend to remain there for a considerable time. Females move around more. The best way to reach these fish is by casting artificial baits, preferably while wading because this allows you to cover more water area from different angles and to retrieve some baits that would otherwise hang up in the riprap. However, the nature of riprap on some impoundments makes wading hazardous, but take heart - nearly as many fish are taken by anglers casting from shore. Some anglers also prefer fishing from a boat anchored off the dam.

Spinning equipment is the most popular gear, with ultralight and medium-action rods providing equal service. Light to medium weight lines are adequate. The number one lure is the lead-head jig. The jig can be dressed with marabou, hair, or plastic grubs. The jig should be fished along the bottom. One way to work a jig is to slowly crank the reel handle, with no rod movement, and allow the jig to bounce haphazardly over the bottom structure. You can also hop the jig along the bottom by first lifting the rod tip slightly then lowering and quickly regaining the resulting slackened line. Experiment with speed until you find a successful rate.

Another method is to cast floating minnow-type lures at night. In the dark, female walleye and associated males move into the shallows and thrash around in the water to complete their annual task, sometimes right at your feet, with such fervor that the sound is audible up and down the dam. Casting floaters to this sound and retrieving slowly but steadily can provide many thrills.

The riprap on some dams is comprised of such large rocks that fishing the jig on the bottom results in frustrating break-offs as the lure wedges between the rocks, especially when the fisherman casts from shore. You can save some jigs by attaching a bobber approximately 2 feet above the jig. The bobber enables wave action to impart a rhythmic motion to the jig and allows you to adjust the depth simply by moving the bobber.

Peak spawning activity generally lasts about two weeks, gradually diminishing for another two weeks. This early spring fishing usually calls for a hardy breed of angler because the weather can be chilly.

- Jim Stephen, aquatic research biologist, Emporia

SECOND YEAR FOR F.I.S.H.

The Kansas Department of Wildlife & Parks (KDWP) is accepting applications for the Fishing Impoundments and Stream Habitat (F.I.S.H.) in 1999. Through this program, the department leases private waters for public access, including both ponds and streams. This is the second year for the program.

Highlights of the F.I.S.H. program include the following:

- KDWP pays landowners/tenants to allow public fishing on ponds or streams according to the schedule below on or about April 1;
- KDWP puts up special signs to mark the property;
- leases for one year may be accepted, but they must be for three years or more to receive supplemental fish stocking;
- KDWP personnel will periodically patrol the area and pick up trash;
- boats will be allowed on ponds and streams only if this is acceptable to the cooperator;
- access will be by foot only except on designated trails, if the cooperator agrees; and
- state law limits normal liability.

Payment schedules are as follow:

- ponds and lakes -- $40 per surface acre;
- access to navigable stream -- $1,000 per site;
- Class 1 streams -- $1,000 per mile for both sides; and
- Class 2 streams -- $500 per mile for both sides.

All streams in Kansas have already been classified, depending of quality of the fishery. Your local biologist has a list of these classifications.

Although the lease period starts March 1, applications will be accepted through June and payments prorated accordingly. For more information, contact Steve Sorensen, KDWP, 6232 E. 29th St. N, Wichita, Ks 67220, (316) 683-8069.

--Troy Schroeder, Fisheries and Wildlife supervisor, Region 1, Hays

LAKE TURNOVER

Lake turnover has to do with the density of water at various temperatures. Water is most dense at 39 degrees F. In the fall, when the surface cools to 39 degrees, that water becomes heavier than the water below it, and it streams down to the bottom. As the surface warms to 39 degrees in spring, the surface water again sinks, causing a spring turnover.

In temperate climates there are typically two turnovers each year. In addition to temperature-related turnover, high winds can cause turnover. This usually occurs in shallow lakes that are open to the wind.

--Doug Nygren, Fisheries Section chief, Pratt

Handguns Now, Shotguns Next

by Mark Shoup

These days, it seems that everyone wants to sue someone to get their way, whether the issue is well-intentioned or self-serving. Don't like the laws your elected officials have passed? Just find yourself an enterprising lawyer and sue. As George Will puts it, we have "subcontracted policy making to entrepreneurial trial lawyers."

One of the worst examples of this litigation mindset has of late slithered into the gun control debate. Several cities, New Orleans being the first, have sued major firearms companies and shooting organizations for expenses they claim to have incurred because of "irresponsible" manufacture and promotion of "unreasonably dangerous" handguns.

Among those named in the suits are the National Rifle Association (NRA) and the National Shooting Sports Foundation (NSSF). This should be cause for concern to all sportsmen and women. The NRA has been at the forefront of the hunter education movement nationwide for 30 years, and the NSSF may be the most active proponent of shooting sports in America.

"Why," you might ask, "should I care about lawsuits over handguns? I'm a rifle and shotgun hunter. I don't even own a handgun."

The answer is as simple as answering why shotgun hunters should defend bowhunters and trappers against animal-rights activists. Those who would take away the rights of others begin with the easiest targets first. In today's press, words like "semi-automatic" and "handgun" are seldom understood but almost always used in a context that might as easily suggest "serial killer" as "sporting arm" or "home defense weapon." Such bias has shaped the debate and the public's perception of handgun laws and the Second Amendment in general.

The point is, the gun-control campaign is exponential in its aims. Initially, waiting periods were the stated goal. Now we have required background checks. The next big push – which is entwined in these recent lawsuits – is for guns that supposedly could be used only by their owners. Gun manufacturers have been trying to develop such "smart guns" for years without success, but gun-control advocates push the issue, stating, among other things, that it will make children safer. They even go so far as to say that owners of such guns could leave them loaded all the time, something that gun manufacturers decry as patently irresponsible.

But the push for "smart guns" has the same ultimate goal as the push for waiting periods, background checks, and next, registration – the elimination of private ownership of all guns. Once smart-gun laws are passed, it will soon be clear that the technology doesn't work. This, in turn, will give opponents of the Second Amendment more "ammunition" with which to attack private ownership of guns.

Sport shooters cannot ignore this debate or be lulled to inaction because the current anti-gun thrust does not affect them directly. The anti-gun folks don't like shotguns, rifles, or hunters any more than they like people having handguns. But right now, handguns are the easier target. And they know these laws are redundant. We already have plenty of laws against committing crimes with guns. Criminals will always get guns to commit their crimes, one way or another. They don't care that they are breaking the law.

These new laws will only affect law-abiding citizens – sport shooters, hunters, and ordinary folks who just want to protect their homes and families. This is why gun rights groups are so adamant in saying that these new laws violate the Second Amendment's singular clause: "the right of the people to keep and bear arms shall not be infringed."

The number one argument for gun control is that it will curb violent crime, but as I've already noted, criminals don't care about gun laws. In fact, they like them. An unarmed citizenry is a helpless citizenry. More importantly, study after study shows that gun laws don't deter violent crime.

Take England, for example, where even hunting arms are severely restricted and handguns are illegal. The United Nations 1991 International Crime Survey reported that Great Britain displayed, by far, the largest increase in crime between 1988-1991, followed by Finland, Netherlands, Belgium, Australia, and Canada. Crime in the U.S. declined over the same period, despite less strict gun laws.

"But what about the children?" ask gun control advocates, stating the safety of youngsters as the primary motivation behind gun control legislation. But while the death of any child is tragic, bicycles, space heaters, swimming pools, and cigarette lighters EACH kill more children under 15 than die by gun accidents annually.

For some supporters of gun laws, the issue is genuinely seen as one of public safety. For those who file suit, the issue is usually money. But for others, the unstated issue is control – control of the individual right to own firearms, or even to hunt. But everyone who considers this issue should take a hard look at history. From the Russian Revolution to Nazi Germany to the pettiest dictatorships of Central America and the Middle East, the first thing banned by totalitarian and fascist regimes is guns.

But then, it can't happen here. At least not as long as that pesky Second Amendment stands in the way. Or can it?

WIHA
CONTRACTS OFFERED

The Kansas Department of Wildlife and Parks (KDWP) is again accepting applications for the popular Walk-in Hunting Access Program, which opens private land to public hunting through a lease agreement between landowners and the department. This has been a very popular program among hunters and landowners. Nearly 500,000 acres were enrolled in 1998.

Highlights of the program include the following:

- KDWP pays landowners/tenants to allow public hunting on their land (according to the schedule below);
- KDWP puts up special signs to mark the property;
- department personnel periodically patrol the land;
- access is by foot only - no vehicles allowed; and
- habitat improvements may increase payment.

Most WIHA land is leased for the Nov.-Jan. period unless special hunting opportunity, such as waterfowl, dove, or archery deer, is provided. The application deadline is July 25. However, anyone interested in habitat improvement options must apply by April 1. Again this year, the program will include habitat improvement options whereby it is possible to increase payment by strip disking in CRP, providing food plots, leaving 12-inch wheat stubble unsprayed and untilled, and creating dove habitat.

Strip disking on CRP pays $12.50 per acre. This involves disking strips 50-200 feet wide at a depth of up to 3 inches in February or March. It temporarily sets back the grasses and allows some beneficial broadleaf plants such as sunflower and pigweed to grow on the disturbed area. These strips provide improved brood rearing areas for upland birds. The grass is not permanently harmed and will take over again in a year or two.

The following list shows payments for WIHA acreage for both November through January and September through January leases:

Acres Enrolled	Payment
80-120	$150-200
121-250	$250-350
252-500	$500-600
501-750	$750-900
751-1000	$1,000-1,200
1000+	Negotiable

Food plots of standing grain on CRP and other land pay $25 per acre plus free seed. Food plots consist of standing grain, typically milo or forage sorghum or ideally a mix of the two. However, wheat and other grains may also be used. Food plots may include as much as 15 percent of a CRP field or be standing grain left in a crop field.

Wheat stubble left at least 12 inches tall pays $1 per acre. Stubble must be untilled and unsprayed after harvest through January 31. Only 2-4D is acceptable for pre-harvest treatment.

Note that strip disking and food plots in CRP require both NRCS and FSA approval prior to completing the practice. For more information, contact Steve Sorensen, KDWP, 6232 E. 29th St. N, Wichita, Ks 67220, (316) 683-8069.

-Troy Schroeder, Fisheries and Wildlife supervisor, Region 1, Hays

DUCK ZONES EXPLAINED

Last waterfowl season, we received several inquiries about the different zones for duck hunting. Many of the questions centered on the differences between the High Plains and the rest of the state. The following should help explain the reasoning behind the zones.

The timing of the season has always been the most contentious part of setting the duck regulations. The preference of duck hunters is usually determined by where they live and what type of duck habitat they have access to and usually hunt. Kansas has a wide variety of habitat types, varying from shallow marshes that provide good early hunting opportunity to deep reservoirs and rivers that can provide good late-season hunting. This, in combination with the fact that we are a migration and wintering state for ducks, means that we have ducks present in the state beginning in September and continuing through to the spring migration in March. This also means that we will always have differences of opinion on just when our limited number of duck hunting days should occur.

The federal government determines season lengths. The states can only choose when the season occur.

Duck habitat types are mixed across our state. In addition, weather patterns - including the amount and timing of rainfall, date of freeze up, and snowfall north of Kansas - all influence the number and timing of ducks in Kansas and the satisfaction of hunters with the timing of the season. Current seasons are our best attempt to balance hunting opportunity among those who want earlier hunting and those who prefer late-season, cold-weather hunting.

The High Plains Zone runs from Montana and western North Dakota southward to western Texas. It was established based on the results of extensive band data throughout the Central and Mississippi Flyways, which showed that ducks, primarily mallards, oriented to the High Plains received less hunting pressure and had lower harvest rates. Based on this information, the season length was increased to provide additional hunting opportunity on these lightly harvested birds. Less than 5 percent of Kansas waterfowl harvest occurs in the High Plains Zone.

Generally speaking, duck season length and bag limits get more restrictive as you go east because of increased hunter density and harvest pressure. For example, Missouri has a shorter season than eastern Kansas while Idaho is currently allowed a 107 day season, the longest allowed by treaty.

--Marvin Kraft, Waterfowl Program coordinator, Emporia

Windbreaks For WILDLIFE

The Kansas Forest Service is offering low-cost tree and shrub seedlings for use in wildlife and other conservation projects. You can select from 29 species.

The ground rules are simple for purchasing these plants. You must agree to use the plants for conservation projects, not landscaping or for a resale for landscaping. Approved uses are for windbreaks, wildlife habitat, woodlots, water erosion, noise or visual screens, and Christmas trees.

The prices are nominal. The plants for a three-row, 300-foot windbreak may cost as little as $85.00. The following is a list of plants and planting products available:

Bare-root shrubs: American plum, choke cherry, fragrant sumac, golden currant, lilac, peking cotoneaster, sandhill plum: units of 50 plants for $25.75/unit.

Bare-root deciduous trees: bald cypress, black walnut, black walnut stratified seed, bur oak, cottonwood, green ash, hackberry, honeylocust, lacebark elm, pecan, pecan stratified seed, redbud, red oak, Russian mulberry, silver maple. (Phone the number below for price. Pecan or black walnut stratified seed are available in units of 100 seeds for $11.25, or $6.75 per unit if purchased in quantities of 10 or more units of a kind.)

Bare-root evergreen trees: Austrian pine, Ponderosa pine, Scotch pine, eastern white pine, eastern redcedar, Rocky Mountain juniper, Oriental arborvitae: units of 50 plants for $25.75/unit, or in quantities of 10 or more units of a kind: $13.00/unit.

Container-grown evergreen trees: Austrian pine, Ponderosa pine (Valentine, NE), Scotch pine (Auvergne), Eastern redcedar: units of 30 plants for $38.00, or $27.00/unit if purchased in quantities of 10 or more units of a kind.

Songbird bundle: $13.50 -- (partially financed by Chickadee Checkoff on state income tax forms) three eastern redcedar, three Peking cotoneaster, five red twig dogwood, five fragrant sumac, and 4 golden currant seedlings.

Wildlife bundle: $68 - five bur oak and 25 each American plum, fragrant sumac, rough-leaved dogwood, golden currant and eastern redcedar seedlings.

Wildlife Mast bundle: $68 - 50 bur oak, and 25 each black walnut, Chinese chestnut and chinkapin oak.

Marking flags: $8.75 - 100 plastic flags on a 30-inch wire stake for marking location of seedlings.

Rabbit protective tubes: $18 - 50 rigid tubes. Includes 50 bamboo stakes.

Root protective slurry: $6 - 8 ounces of a water-absorbing polymer to be used as a root dip to protect roots from drying. Treats approximately 300 seedlings. Especially recommended for bare-root pine seedlings.

Weed barrier fabric: $75 - 50 pieces of 4-foot x 4-foot fabric guaranteed 5 years against ultraviolet radiation. Used to conserve moisture and reduce weed competition. Includes 250 pins to secure to ground.

Call for more information or an order form at your county extension agent, County Conservation District office, or the Kansas Forest Service toll free at 1-888-740-8733.

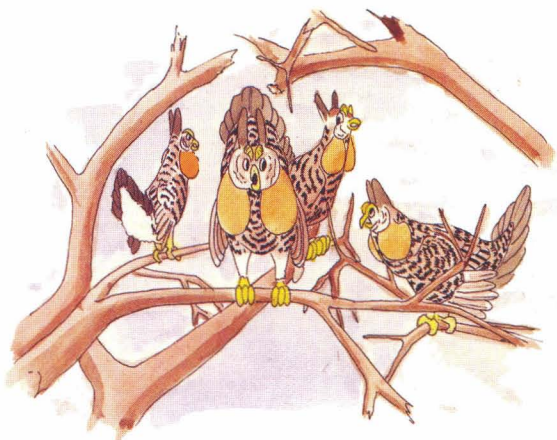
- Bill Loucks, conservation forester, Kansas Forest Service, Manhattan

TREE CHICKENS

Greater prairie chicken leks (breeding grounds) are generally on high prairie with grass cover that is relatively short compared to the surrounding vegetation. Mating displays are typically performed on the ground but have been performed on blinds and other raised objects. This note describes prairie chickens displaying in a tree.

The lek was in native tallgrass prairie in Lyon county. The grassland area including the lek was moderately grazed, annually burned, and interspersed with about 20 percent woody cover and 10 percent cropland.

Four prairie chickens were observed in a 6-meter cottonwood tree when the lek was first observed on March 26, 1997. All four birds were booming. On closer observation, it was found that the lek consisted of 16 males displaying on the ground beneath and north of the tree.



The four males in the tree were performing in part the "variant" boom. This display consists of erection of pinnae, inflation of air sacs, and snapping of the tail. The accompanying vocalizations included staccato cackle, booming, and the whoop call. Males on the ground performed the complete display, including dancing and turning in circles.

The four males in the tree periodically flew to the ground to interact with the 16 males there. Each time a male flew from the tree to the ground, a male flew to the tree within a few seconds. These may have been the same or different males. These observations were noted on 23 different mornings during peak display. There were four males using the tree on all observation days. The number of males on the ground beneath ranged from 16 to 21. From seven to 10 females were observed on the ground on or near the lek.

In the spring of 1998, the lek was again found under the tree, this time with 7 males displaying this most unusual aerobatic mating behavior.

-Roger Applegate, small game coordinator, Emporia

TURKEY PERMITS

The Kansas spring turkey season begins April 14 and runs through May 23. Permit applications are available statewide. Over-the-counter permits for most of the state - both resident and nonresident - are available at Department of Wildlife and Parks offices and select license vendors.

Unit 1 -- the southwest part of the state - had a limited number of resident-only permits that have already been issued.

Turkey permits are unlimited in Units 2 and 3, one per hunter. These may be purchased over the counter. Hunters will also be able to purchase a second turkey "game tag" for Unit 2, which includes eastern and southcentral Kansas.

Resident turkey permits are $20.50; resident landowner and hunt-own-land permits are $10.50 (special application to Pratt Office required); nonresident permits are $30.50, and second turkey game tags are $10.50. Unless exempt by law, hunters are also required to have a small game hunting license.

--Shoup

CONSERVANCY BUYS SMOKY HILL LAND

In Logan County, well off the beaten path and accessible only by one public road, lies a 16,480-acre parcel of shortgrass prairie, a largely pristine swatch of native grassland bisected by the Smoky Hill River. [Last January, it was announced that] the Kansas chapter of The Nature Conservancy (TNC), the world's largest owner and manager of private nature sanctuaries, had purchased the land, known as the Smoky Valley Ranch.

The purchase, viewed as a conservation coup by scientists and historians, represents the largest private conservation land acquisition in state history. "The area has biological, historical, and cultural history all rolled into the same package, which kind of broadens its audience," said Alan Pollom, Kansas director of TNC.

It will be years, Pollom said, before any of the land becomes available for limited public use. However, the purchase will enable scientists to begin planning long-term studies of the shortgrass prairie ecosystem. One of the most important things about the site in terms of potential research would be the study of ground-nesting and mixed-prairie songbirds [which are in decline].

The ranch was also home to a Butterfield Overland Dispatch stage station on the Butterfield Trail, where western notables such as Kit Carson had occasion to stop. Explorer John Fremont crossed the ranch on July 13, 1844, during his trek to chart the western United States. And in 1897, researchers from Yale University discovered the first evidence of human habitation in North America - an ancient bison shoulder, some 10,000 years old, with a spear point imbedded in the bone.

The land will remain on county tax rolls.

--Steve Harper, Wichita Eagle

NEW BIKE TRAIL

Hikers and bicyclists soon will have a new concrete path to use in southwest Lawrence. Nearly $72,000 will be spent to install a 10-foot-wide path around a drainage pond south of the city's Clinton Lake Softball Complex. The project will be financed in part by a $58,000 grant from the National Recreational Trails Foundation, as administered by the Department of Wildlife and Parks.

--Mathews

WETLAND RESTORATION

Following a nationwide trend, a team of Johnson County developers is working on a new, cheaper way to restore wetlands destroyed by development. The project calls for the construction of a 50-acre man-made wetland area bordering the Blue River near the Overland Park city limits. The wetland, which will be built next to an upscale residential neighborhood, will act as a bank in which developers can buy credits as a way of replacing wetlands destroyed elsewhere in Johnson County.

Known as a "wetlands bank," the project represents a new and increasingly popular way to preserve the nation's wetlands. It would be the first of its kind in Kansas.

--Kansas City Star

BUCK BOOK

Kansas deer hunters dreaming of monster bucks are sure to be inspired by a new book entitled, Legendary Whitetails, a 219-page coffee-table presentation of 40 of the greatest bucks of all time. Included are deer taken from all over North America, several of which were harvested in Kansas.

All the famous deer are here, including current world records for both typical and non-typical categories. Included for each are photographs, score sheets, and in-depth stories of how the deer were taken. Dick Idol, Rob Wegner, Greg Miller, and other famous deer hunting authors pool their talents to take the reader on a trip through time to discover the legends of the Boone & Crockett and Pope & Young records.

Besides a fine collection of hunting stories, the accounts include fascinating details of how the great heads of the past came to be acknowledged today. Stories of loss and rediscovery are explained, along with answers to such mysteries as what caused the hole in the world famous "hole-in-the-horn" rack. Hunting strategies that yielded the super-trophies are examined for both bow and gun hunts. Also included are accounts of "finds" of deer that had outsmarted hunters and died of natural causes, leaving behind stunning antlers that rank at the top of the record books.

Portraits of each mounted buck are complemented, in many cases, by field photographs at the time deer were taken. Some of these date back 50 years or more, providing a glimpse into America's rich deer hunting tradition.

The book retails for $39.95 or can be purchased in a limited edition leather-bound issue for $79.95. For more information, phone (414) 243-6021.

--Blair

by Mark Shoup

Star Light Star Bright

If you have read the article on star gazing in this issue (Seize the Night), you may be more curious about astronomy. Almost everyone has enjoyed looking up at the night sky and wondered about all those stars. When star gazing, one simple question usually comes to mind: How far away are they?

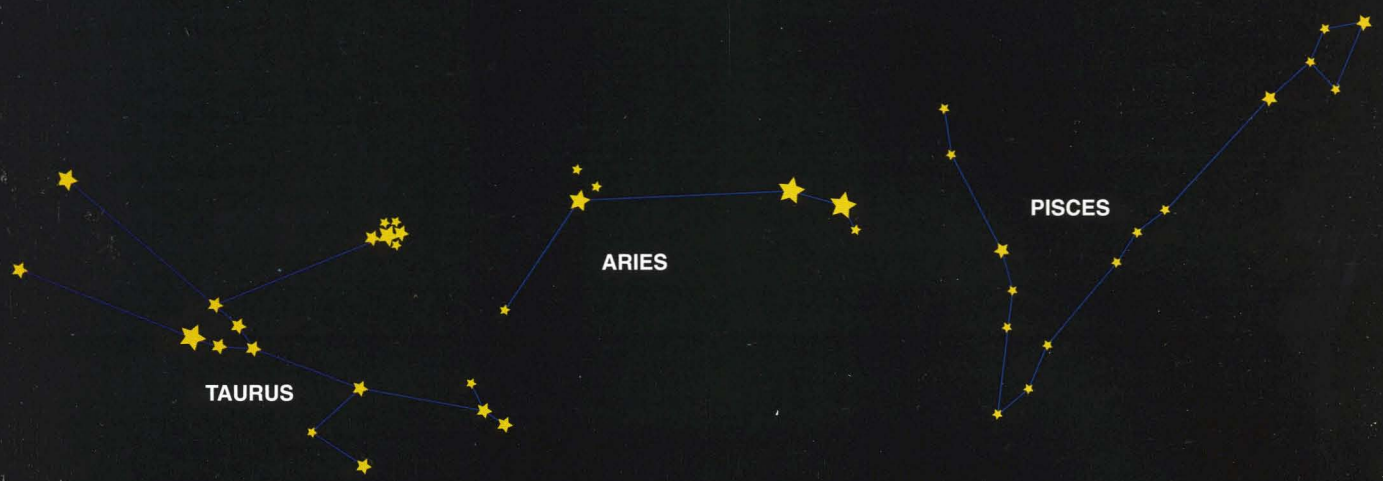
Most stars are trillions of miles from Earth. (A trillion is a thousand billion, if that helps.) Because trillions of miles are difficult to understand, distances in space are usually measured in "light years" -- the distance that light will travel in one year. (Let's see. Light travels 186,000 miles per second. Now multiply 186,000 times the number of seconds in a year . . . Never mind. We'll just call the answer one light year.)

Some stars appear brighter than others, but does that mean the brighter stars are closer? Not necessarily. Distance, size, and temperature all help determine how bright a star appears in the sky. Naturally, the closer you are to a light, the brighter it seems. Bigger and hotter stars also shine more brightly.

How bright a star appears to be from Earth is called its "apparent magnitude." But if we could collect all the stars in the sky and arrange them the same distance from Earth, we could see how bright each one really is compared to the others. Scientists call this "absolute magnitude." Absolute magnitude is determined by the star's size and temperature. The star's distance only determines only how bright it appears to be.

There are several types of stars, such as blue supergiant, red supergiant, blue giant, red giant, yellow star, red dwarf, and white dwarf. The hottest stars are blue or white, followed by the yellow star and then the cooler orange and red. Of two equal-sized blue and red stars, the blue one would be hottest -- and brightest. But size matters. A blue supergiant would be the brightest, but a red supergiant might be brighter than a blue giant.

It's not easy to tell from Earth which stars are closer, and not all stars in the same constellation are the same distance away.



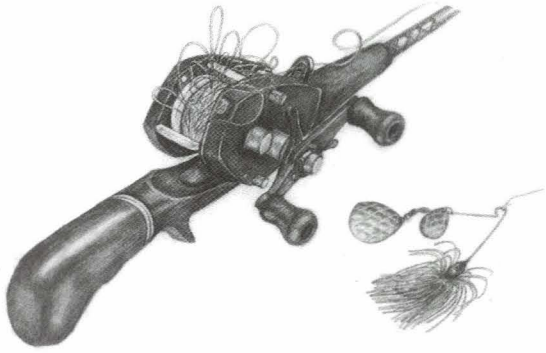
Consider the three stars in the handle of the Big Dipper. Alioth, which is closest to the Dipper's "bowl," is about 81 light years away. Mizar, the middle star in the handle, is about 88 light years away, and Alkaid, the star at the end of the handle, is 100 light years away. All three are white stars.

Alioth is the brightest of the three stars. It is also the biggest, about four times the size of the sun, and brightest. Mizar and Alkaid are about equal in size, twice as big as our sun. Mizar is about twelve light years closer, so you might think that it would appear brighter than Alkaid. Not so. While Mizar is about 63 times brighter than our sun, Alkaid is much hotter. It is 4,300 times brighter than our sun!

Like the Big Dipper, most visible stars are grouped into patterns called constellations. For ancient peoples, these patterns represented gods or animals, each with its own story. There are about 90 officially recognized constellations.

You can make your own constellation viewer to demonstrate the patterns of constellations. First, you need an oatmeal canister or a paper towel tube. Next, cut pieces of black construction paper about two inches wider than the hole in the canister or tube. Now, using the constellations in this article or constellation books from the library, poke holes in the paper in patterns of the constellations.

Turn the paper upside down, place it over one end of the tube or canister, and hold it up to the light. Instant constellation!



Backlash

by Mike Miller

How *Not* To Measure Crappie

The crappie will be biting soon. I know this because Lennie is coming out of winter hibernation. After ice-fishing shuts down, Lennie fades from sight until the crappie spawn. He's learned that premature fishing trips are usually good for getting cold, wet, and hungry — not much else. There was a time when, if I lied a little, I could con him out of the house on a warm February day. Not any more.

I stopped by his house the other day, and Lennie was sitting in front the T.V. — a sure sign of spring, since he's usually lying on the couch in full hibernation. I asked about his Uncle Stub, who always knows if the crappie are biting. Lennie stretched and groaned, rubbed his scruffy chin, and brushed the cookie crumbs off his chest. This looked promising.

"Uhrrrgh. Ummph. Ahhhumm," Lennie snorted, scratched his head and tried again. " Ah, uh talked to Uncle Stub last night, er, uh, yeah, last night. He caught six crappie on, uh, Wednesday — I think. Big ones. They're starting to move up. Whew," Lennie finished with a sigh, winded after completing several sentences.

"Big ones, eh," I said leaning closer. I was going to push for details, which I knew would sour Lennie's mood. "How big?"

"Huh?" Lennie turned away from the Andy Griffith Show, squinted one eye and raised the other eyebrow. "I don't know — good ones. You know, 12- or 14-inchers. And no I didn't ask what he caught them on or how deep he was fishing or what the dang moon phase was. Call Uncle Stub if you have to know every detail. Now shut up. This is my favorite part — see, Barney follows a drunk rooster around the barn and ends up drinking some of Juble's moonshine, thinking it's water. Ha! 'Juuble, Juuble, Juuble'. . . "

I quietly slipped out as Lennie laughed at the T.V. I figured laughing was pretty good exercise for Lennie, and he might be ready to fish by the end of the week. But I got to thinking about how we estimate crappie size.

"Big" in crappie terms is relative. It depends on the general size of crappie caught on a given day. On a good day, a 12-inch, or "big" crappie might actually measure 12 inches. On a bad day, a 12-incher might measure only 10 inches — or less.

I remembered a perfect example several springs ago. Itch, Bubba, Morty and I were fishing a pond that was chock full of stunted crappie. We caught crappie on almost every cast, but they were 7 inches long and paper thin. After catching and releasing about 50 fish apiece, Bubba and I gave up and went back to the truck. Itch and Morty stayed, hoping that somewhere in the pond lived a keeper-sized crappie. A short time later, Morty gave up, and the three of us ate supper while Itch stubbornly continued to fish. Just after dark, Itch came running up excitedly.

"You guys quit too soon. Just before sunset, I started catching the big ones — real slabs," he said proudly.

"How big?" we asked simultaneously. Itch laid his finger a good three inches above his palm on his wrist. "This much bigger than my hand. I measured some of them on the tape stuck to Morty's tackle box, and they averaged 12 inches,"

"Yeah, right," Bubba huffed. "I gotta see this."

"I've got 'em on a stringer down at the pond. C'mon, I'll show you guys."

We all followed Itch back to the pond, firing jabs about his exaggeration along the way. The closer we got to the pond, the less confident Itch was about his length estimates.

"You guys might laugh, but these are big crappie to me. They might not have averaged 12 inches, but some were. At least that's what Morty's tape measure said. I swear," Itch said as he swung the stringer on to the bank.

"You knucklehead," Bubba roared. "These aren't any bigger than what we were catching earlier. Shoot, some of 'em aren't even that big. Slabs my foot."

"You're crazy," Itch screamed, his voice rising with panic. "Look!" He grabbed Morty's little tackle box and laid one of the undernourished crappie across the top. "See. Twelve inches!"

"I hate to tell you this Itch, but the first four inches of that tape are on the side of the box. See, the first number on top there is 4," Morty said, chuckling uncontrollably.

Itch rolled the tackle box over and squinted. His "slab" was barely 8 inches long.

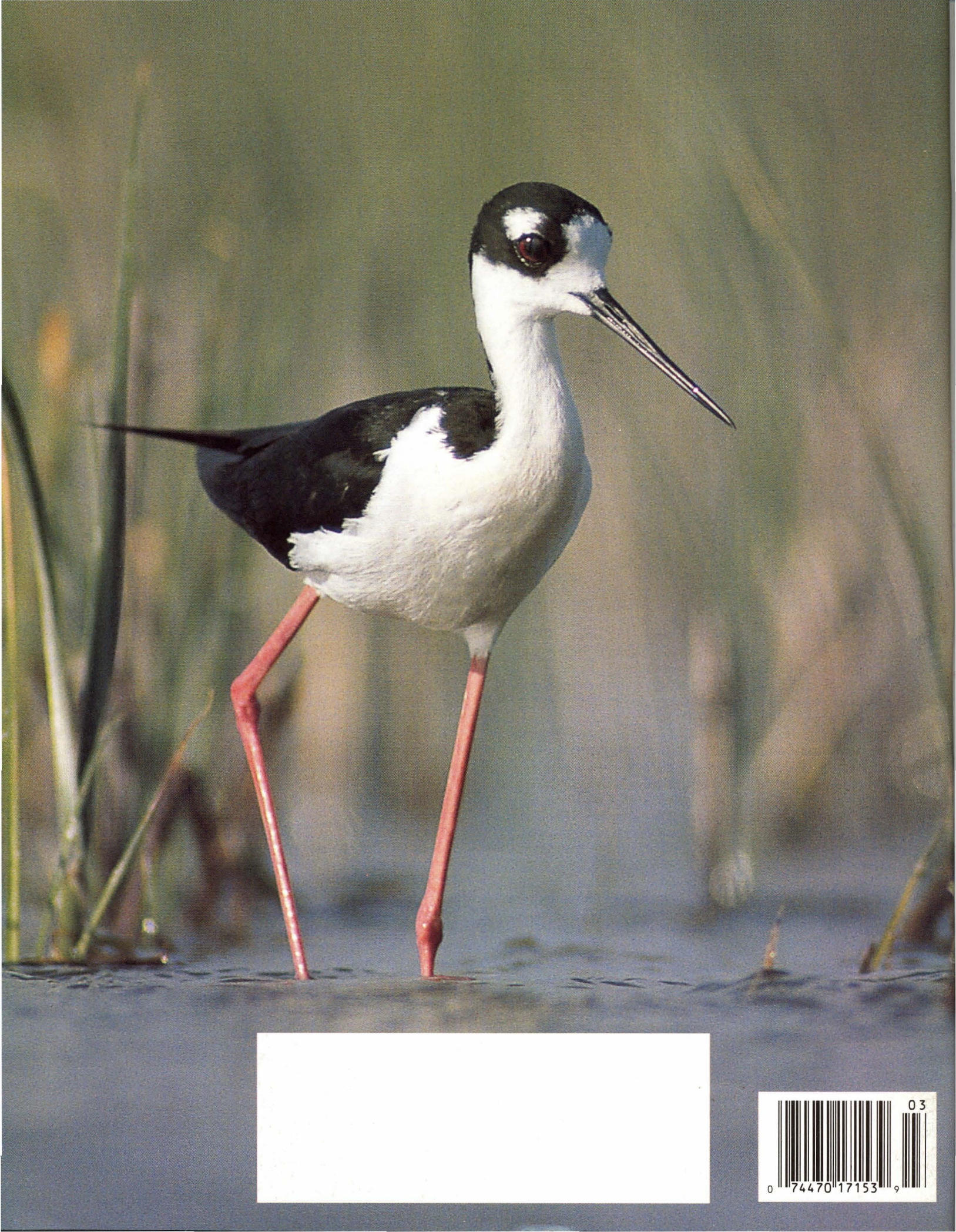
"I can't believe you put a tape on your box like that, Morty," Itch said trying to shift the blame. "What kind of fisherman are you?"

"Well, duh," Morty said starting to get irritated. "The tape is too long to fit on the top of the box, so I had to fold some of it down the side. Get your own tape if you don't like it."

Itch caved in. He knew he was wrong, but he knew it wasn't over.

"You guys are gonna tell everyone we know about this aren't you. I'll never live this down. Go ahead and laugh. Jeez, you'd think none of you ever made a mistake."

Itch was right about a couple of things that evening. We told everyone we knew, and he's never lived it down.



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